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The Regional Community

THIS is the Regional Plan number of Survey Graphic. It owes its underlying idea to a long-bearded Scot whose curiosity would not let him rest until from his Outlook Tower in Edinburgh he had seen clear through the pother of civilization to the land which sustained it and, in spite of human fumbling, controlled it.

This number has been written by a group of insurgents who, as architects and planners, builders and rebuilders, have tried to remold cities in conventional ways and, finding the task a labor of Sisyphus, have pinned their faith boldly to the new concept of the Region. One of them lives in a Brooklyn flat and writes wistfully of Connecticut villages; one spends his best hours felling trees and clearing mountain trails; one is a prophet crying in the wilderness of the city, his heart in the crumbling country towns. Among those who have shaped it and put it together is a man who clings to a tiny communal patch of green set in the midst of tenements; a woman who takes her sweltering way twice daily beneath the length of Manhattan; a man who gives three hours a day to journeying between his desk and a crabapple tree. The Regional Plan number, in a word, has been made by people who are loth to live fractional lives in either city or country—and refuse to admit that civilization requires of them perpetually the sacrifices they must make today to reconcile the means to live with a way of living. It will be read by thousands who share their discomfort and their hope.

For it is not enough to decry the manifest disabilities of the great city as a place to live in, or to ease them momentarily by the patching and straightening that engrosses so much of the effort of the city planner. Nor is it enough to plaster the billboards of the city with fervent appeals to Own Your Own Home. Back-to-the-land campaigns reckon neither with the creeping paralysis which threatens our agricultural communities nor with the anomalous situation of the suburb—which is often a mere castle in the sand, swallowed up sooner or later by the swelling tide of city congestion. Lewis Mumford gives the clue to genuine progress in Sticks and Stones:

> To see the interdependence of city and country, to realize that the growth and concentration of one is associated with the depletion and impoverishment of the other, to appreciate that there is a just and harmonious balance between the two —this capacity we have lacked. Before we can build well on any scale we shall, it seems to me, have to develop an art of regional planning, an art which will relate city and countryside in a new pattern from that which was the blind creation of the industrial and territorial pioneer.

Here The Survey opens its pages to the Regional Planning Association of America. These pioneer planners have watched the drift of population and gaged the promise of its shifting currents. (So the number, which like a region has a plan, opens with a rapid sketch of these lines of flow.) They have probed beneath the surface of the great city which we accept so carelessly as the capstone of civilization, and have found the foundations crumbling. (So the number next gives space to a group of articles which appraise the performance of the city, its psychology, and its attendant hurly-burly of transportaton.) Then they have studied with technical precision the possibility of a new pattern of power, of industrial distribution, of housing and play, of the interlock between natural resource and human uses. Generalizing from their data, they have devoted the greater part of this issue to presenting, facet by facet, a new kind of human environment—the regional community. They define it; they show it as an end toward which New York with its Regional Plan Commission and Pennsylvania with its Giant Power Survey Board are already moving; they portray it as a place of more satisfying homes, as a place where children today and their children tomorrow may find a fuller life.

THIS then is the first rounded statement in magazine form of a new plan of relating masses of population to the land. This plan harks back to the robust "geotechnics" of Patrick Geddes—and through the summer we shall publish a series of brilliant articles from the pen of this seer of cities. The plan is closely linked in spirit and practice with the garden cities of England, whose founder, Ebenezer Howard, is a delegate to the New York Conference on Town, City and Regional Planning; it has frequently been dealt with, since the war, in the Journal of the American Institute of Architects; it binds up the common hopes of scattered planners in many cities. Here it is newly set down in broad outline for what it is worth—tentative as it must be, prophetic rather than descriptive, yet full of exhilarating promise.

The Fourth Migration

By LEWIS MUMFORD

IN a period of flow, men have the opportunity to remold themselves and their institutions. The great migrations that swept over Europe in the past; the migrations that surged past the water-boundaries of Europe and crawled through the formidable American wilderness—these great tides of population, which unloosed all the old bonds, have presented such an opportunity. To some of us it seems that in America we are in the midst of another such tidal movement of population—and for convenience, we have called it the Fourth Migration.

Historically, there are two Americas: the America of the settlement and the America of the migrations. The first America consists of the communities that were planted on the seaboard and up the river valleys during the seventeenth and eighteenth centuries. By 1850 these communities had achieved their maximum development; they had worked out a well-rounded industrial and agricultural life, based upon the fullest use of their regional resources through the water-wheel, mill and farm and they had created that fine provincial culture, humbly represented in the schools, universities, lyceums and churches, which came to a full efflorescence in the scholarship of Motley, Prescott, Parkman and Marsh, and in the literature of Emerson, Thoreau, Melville, Whitman and Poe.

The second America is the America of the migrations; the first migration that cleared the land west of the Alleghenies and opened the continent, the work of the land pioneer; the second migration, that worked over this fabric a new pattern of factories, railroads, and dingy industrial towns, the bequest of the industrial pioneer; and finally—and this brings us down to the present period—there is the America of the third migration, the flow of men and materials into our financial centers, the cities where buildings and profits leap upward in riotous pyramids. These three migrations have covered the continent and knitted together its present framework; and our efforts to promote social welfare, to "make crooked cities straight," and to conduct industries efficiently are based for the most part on the notion that this framework is complete and satisfactory—and final.

But the mold of America has not been set: we are again in another period of flow, caused like the flows of the past by new industrial methods, new wants and necessities, and new ideals of life, and we have before us the great adventure of working out a new pattern so that the fourth migration will give to the whole continent that stable, well-balanced, settled, cultivated life which grew out of its provincial settlement. We can hinder this tidal change and rob ourselves of its potential benefits by adjusting our plans to the forces that were dominant in the recent past; or we can remold our plans and guide our actions in terms of a more desirable future. This alternative goes down to the very roots of social philosophy. John Dewey has implicitly warned us of the fallacy of the first attitude; for in dealing with social facts that lie in the future, our hypothesis and our working plan are among the elements that determine the outcome. The sheaf of articles presented in this issue uncovers a new set of facts and presents a fresh set of alternatives, which seek not to create the Fourth Migration—that is already under way—but to guide it into positive and fruitful channels.

In order to put the Fourth Migration in perspective, let us consider briefly the three great movements of population which every civilization in Europe has experienced at some time in its history. In America this experience was crowded into the short space of a little more than a century; and these three movements had certain peculiar characteristics which left their mark on our landscape and our life.

THE first migration was the clearing of the continent; and its symbol was the covered wagon. Before the Revolutionary War America was in reality a fringe of Europe: here was a Biblical "city of refuge," there a penal colony, and in another place an experimental society. From the close of the war the colonists found themselves bound by an unprecedented urge to take possession of the continent; and the history of the pioneers is the history of restless men who burned the forests of the Mohawk valley in order to plant farms, who shifted into the soft glacial deposits of Ohio in order to cleave their plows through its rich soil; men who grabbed wheat land and skinned it, who grabbed urban sites and "turned them over"; who staked out railway lines, sometimes strategically, like the Lehigh, and sometimes stupidly, like the Erie, in a mad scramble to cover the continent.

During the period from 1790 to 1890, when almost the last good free lands were disposed of, the farmers and woodmen and miners of the country lived symbolically, if not actually, in the covered wagon. The little communities that clustered about the mine or the railway station were towns and villages only by courtesy of the census taker: they lacked the traditional resources of a common life—their games, their religious revivals, their intellectual stimuli, were all of the crudest. Pleasure never interfered with the "business" of the early pioneer; because business *was* his pleasure. The gospel of work needed no Carlyle for preacher in pioneer America.

It is conceivable that the first migration might have been made soberly; that there might have been a consistent pros-

pecting for good sites, an attempt to sort out the newcomers by directing them to the type of land and community they needed, and an effort to secure stable farming and a sound exploitation of resources. The "necessity" for opening the continent was largely mythical: it was, in all probability, a rationalization of the land-hungry European. All these better methods were, perhaps, conceivable; but as things stood, they didn't come to pass; and ever since 1890 we have been feeling the effects of the disorderly first migration: the butchered forests; farms gone to ruin or into a ruinous system of tenantry; villages so sterile that they drive all their ambitious or sensitive young people to the big towns. The conservation movement is a belated attempt to repair the evils of the first migration, and to use the land and its resources with some respect to their permanent productive capacity. Its chief weakness is that, in protest against our misuse of the remaining resources it tends to be negative, and is only beginning to develop a consistent regional program for their proper social use and development. As conservation passes out of this negative state, it tends to find common cause with the rural side of regional planning. But this is to anticipate.

THE FIRST MIGRATION (1790-1890) CLEARED THE LAND AND SETTLED THE CONTINENT.
THE SECOND MIGRATION (1830-1910) GUTTED OUT NATURAL AND HUMAN RESOURCES AND CREATED THE MEAN AND CHAOTIC INDUSTRIAL DISTRICT.
THE THIRD MIGRATION (1870-?) GATHERED POPULATION IN NEW YORK AND THE TWELVE SUB-METROPOLISES

THE second great flow of population in America was from the countryside and from foreign countries into the factory town; the covered wagon gives way to the iron horse. Up to 1820 the chief concentration of people had been in the trading centers of the seaboard and the river junctures. With the introduction of steam power, factories were erected in places where power, as in the milltowns of Pennsylvania, or factory hands, as in the seaports, seemed most available. Cleveland in 1820, Columbus in 1830 and Chicago in 1840, with the rapid growth of all the industrial towns in the industrial expansion of the Civil War, tell a graphic tale of the westward march of men and manufactures.

The conditions that determined this flow of population were narrowly industrial: a city was considered solely as a place of work and business opportunity. That children need a chance to play and grow, that families need decent shelter and privacy and a few amenities, that learning and culture are worth encouraging for their own sake—these things were too often forgotten and ignored by the men who fostered the new industrialism. The result is familiar, and there is scarcely a town with more than 10,000 people and a working population which will not serve for example. Homes blocked and crowded by factories; rivers polluted; factories and railway yards seizing sites that should have been preserved for recreation; inadequate homes, thrown together anyhow, for sale anyhow, inhabited anyhow. The result was called prosperity in the census reports, but that was because no one tried to strike a balance between the private gains and the social losses.

To offset the depletions and dilapidations of the second migration, a special kind of "conservation" was instituted. The housing movement began in New York when a group of public-spirited citizens discovered that vice, crime and disease were largely by-products of an impoverished and congested environment. City planning came later. Meanwhile in every industrial center remedial agencies from soup kitchens to building and loan associations, from social settlements to employment bureaus, have been endeavoring to supply, partly from private means, the necessary facilities for living and enjoyment that were left out in the growth and expansion of the industrial town.

On certain sides the deficit has been terrific; scarcely any large town founded before 1880 has attempted to house the whole community with a respectable minimum of light, air, garden space and playgrounds, to say nothing of parks and access to open country; and although a great part of mechanical industry is burdened with overproductivity—which it recovers from by periodic shutdowns at the expense of the workers—it waited the suggestion of Peter Kropotkin, and the technical innovations of Henry Ford, actually to hold out the prospect of an environment in which industrial idleness might be bridged over by a certain sustaining minimum of agricultural labor. In short, if the first migration denuded the country of its natural resources, the second migration ruthlessly cut down and ignored its human resources. This, too, is the history of a wasted opportunity. With every chance to begin afresh, the industrial revolution in America reproduced—if we ignore a few isolated villages—all the bad characteristics of industrialism in Europe. Dickens' Coketown duplicated itself

in Pittsburgh, Chicago, St. Louis, Newark, Bridgeport, or where you please.

THE magnet of the third migration was the financial center. As the industrial system developed in America productive effort came to take second place to financial direction, and in the great consolidations of industry that began in the 'eighties, in the growth of banking and insurance facilities in the 'nineties, and in the development of advertising for the purpose of securing a national market, that got under way in the present century, the sales and promotion departments have absorbed, directly or indirectly, a large part of the population.

The greatest concentration in all these departments took place, of course, in New York, whose overseas connections put it into a peculiarly strategic position; but within the past generation a similar development has taken place in the regional sub-metropolises, that is to say, in the twelve cities which now have a nominal population of over 500,000 and in most cases an actual population, when suburban areas are considered, of over a million. With the exception of New York, which controls very largely the journalism, banking, insurance and advertising of the whole country, and of Chicago, which operates similarly in the middle west, these sub-metropolises—as a glance at their position will show—are really regional centers whose natural growth has received an additional stimulus from these peculiar financial opportunities.

The third migration has resulted in a steady drain of goods, people and pecuniary resources from the industrial towns and villages of the earlier migrations, and along with it the new sub-metropolises have acquired cultural resources which the rest of the country has lacked, or has achieved only tardily. The art museums, libraries, universities, research institutions, and theaters were at first monopolized by the older cities of the seaboard; and it has been only with great effort that the sub-metropolises, with their original industrial base, have begun to equalize the financial advantages of New York. As it is, no one can do first rate scholarly research in many lines without going to New York or Boston, Philadelphia or Chicago; and by the same token, it is New York that monopolizes the theaters and sends out road-companies to the rest of the country, as Dives might scatter the crumbs from his table.

When we speak of the disadvantages of the third migration, it is important that we should distinguish between the economic basis of that migration and its cultural by-product. So far from looking for the growth of regional centers of culture to cease, we should perhaps count upon its increasing as soon as the social and economic disadvantages of excessive concentration are done away with.

There are two things that should be noticed about the first three migrations. The first is that the movement of population is not from farm-village, to industrial town, to financial metropolis: the migrations rather come as successive waves, and while one wave recedes as the next comes foaming in, the first nevertheless persists and mingles with the second as an undertow. The present migration to the fruit farming and dry farming areas, or the new migration to the reclaimed swamps, marks the continuance of the first migration. Each migration represents a particular type of economic and social effort: the life that Daniel Boone sought is a different life from that a Wall Street broker or advertising man thinks desirable. The first migration sought land: the second industrial production; the third, financial direction and culture; but as a matter of fact, each of these types of effort and occupation is needed for a stable, all-round community. Only here and there have we even fitfully attempted to utilize the land intelligently, relate industry to power, resources and market, and provide an adequate "human plant" for the community at large. To effect this union is the task of the fourth migration.

WHAT, then, is the basis of the fourth migration? Its basis is the technological revolution that has taken place during the last thirty years—a revolution which has made the existing layout of cities and the existing distribution of population out of square with our new opportunities. The first change is that which has taken place in transportation: the railroad line is no longer the sole means of rapid transportation. The automobile has brought goods and markets together, not linearly, as the railroads tend to do, but areally; so that a great deal of ground untouched by the railroad has been made accessible to the automobile. Chain stores have been quick to grasp the advantages of covering territory in this fashion, and the truck that makes its rounds through the small villages and towns receives the current surplus of eggs and butter, for distribution beyond the local market area.

Similarly, the automobile has increased the radius of the school and the library service, and it has likewise provided a basis for a system of direct marketing which now exists, unfortunately, only for summer-communities, but which could, were summer-communities made permanent, be made the basis for a year round supply of milk, eggs, butter, poultry and garden produce. In many parts of the United States the summer-community has assured the farmer of a stable income which his remoter metropolitan markets did not assure him. The railroad, moreover, tends to concentrate population near its lines; and there are city planners who, thinking in terms of the railway era, look forward to a complete consolidation of population in the seaboard and lake areas, along these lines. The railroads themselves have done what they could to promote this concentration by subsidizing a large commuting population, in order to increase the amount of non-commuting traffic.

Mark the contrasting type of development brought in by the automobile. The motor road does not depend upon concentration of population for its upkeep; indeed, instead of concentrating on main highways or trunklines, the motor highway system is best kept up, without heavy wear and tear on one hand or practical disuse on the other, by spreading the load of traffic and taxes. The tendency of the automobile, in other words, is within limits to disperse population rather than to concentrate it; and any projects which may be put forward for concentrating people in Greater-City areas blindly run against the opportunities the automobile opens out. Whether the airplane will work centrifugally or centripetally it is hard at the moment to tell: at present, with the volume of traffic slight, aviation has tended to develop air-lanes; but if the volume increases an aerial network, less bound to linear movements than even the automobile, seems at least a likelihood.

The second factor which bears upon the new layout of population is our new means of communication. The set towards urban concentration in industry and social life dates before the days of the telephone, when all personal contacts had to be made on the spot. Today the spot can be any point

in a large area—in theory the whole United States, in practice the ten cent call zone—and still the contact can be effective and personal. In certain lines, where the bargaining between buyer and seller is still intimate, face - to - face meeting is a necessity; but this concerns the business end of production more than the factory end, and a great many factories, which are now on the periphery of Chicago, St. Louis, or Philadelphia, might with equal success be conducted at any point in a much wider region, even if the eventual market for the product were concentrated. The telegraph symbolically follows the railroad; the telephone, with kindred symbolism, follows the motor highway. So much for the business end of communication.

By Fred Dana Marsh Courtesy of Arden Studios

Cleveland

Socially, the popularization of the radio has made concentration even more obsolete, for today the songs, the news, the gossip and the speeches, which were once available only by taking a journey and sitting in a hall, are now increasingly the property of anyone who possesses a radio outfit; and the remote countryman is just as near the events and amusements which many people regard as the indispensable benefits of the big city, as the flat-dwellers of the Bronx or the rabbit-hutch dwellers of Philadelphia. In other words, the radio is potentially a distributive and decentralizing agency. Finally, the parcels post has placed the rural dweller who has the postman collect the mail from his door even nearer to his market or his neighbor than the city dweller, who must walk to the post-office to mail a package. Our modern methods of transportation, in fact, have reduced many of our boasted metropolitan advantages to nil.

Finally, electric transmission, in its recent phase, can send energy over a wide area without undue loss, and here again, instead of being tethered to the railroad and its coal shipments, industry can move out of the railroad zone without moving out of the power zone. Where water-power is available, the location of the factory need have no relation at all to the older technology. Moreover, for the economic distribution of power, engineers have found it advisable to have a balanced load, that is to say, a day-consumption (industrial) and a night-consumption (home) within the same local area; for when these two types are separated, the equipment that serves the daytime city lies largely idle at night.

All this, it goes without saying, means that our modern power facilities are favored by, and favor, a wide distribution of population. The three-hundred mile transmission belt, plus the motor highway, has made the coal railway center an antiquated industrial site. Industry under modern technology has a much wider choice of site than ever before. If it does not exercise this choice it tends to lose in efficiency of operation and personnel. As yet, it has scarcely begun to exercise it, partly because the inertia of custom and business enterprise has bound it to the old centers, and partly because its attention has not been directed to the advantages that would accrue to it; and finally because it can make no move which does not involve the housing of its workers and the provision of municipal services. An occasional factory or steel plant has made the attempt; but industry as a whole has not. It remains for regional planning to develop all these factors at once, as part of the technique of the Fourth Migration.

Now the third migration has not produced a good environment: it has sacrificed home, health, and happiness to the pursuit of business enterprise designed to produce maximum profits. Those centers which have concentrated most feverishly upon business efficiency are farthest away from having adequate homes and all the accessory institutions that round out a well-developed community. The forces that are concerned solely with business enterprise lose no opportunity for stressing the necessity of continuing the third migration; and city planners who fall in line with it plan for the agglomeration of ever-greater urban regions. This method and this attitude take altogether too much for granted, and if they have the great advantage of following the line of least resistance they too easily ignore the significance of new methods and new procedures which shift the direction of that line.

It is evident that each great movement of population, in sum, presents a new opportunity and a new task, and wisdom consists in taking advantage of the movement while it is still fluid. Fortunately for us, the fourth migration is only beginning: we may either permit it to crystallize in a formation quite as bad as those of our earlier migrations, or we may turn it to better account by leading it into new channels. To suggest what these new channels are, to show how necessary it is for us to trench them open, and to indicate how much the future may hold for us if we are ready to seize our destiny and shape it freshly—that is the purpose of the present articles. Even if there were no fourth migration on the horizon it would be necessary to invent one. It is at least a more fruitful hypothesis than any of those we are now blindly following!

Photograph by Fairchild Aerial Surveys, Inc.

Chicago

Dinosaur Cities

By CLARENCE S. STEIN

We boast of the great cities that were born of the three migrations, and rub our hands as they grow greater. But even as we boast they are failing like the dinosaur; they are too big, and we pay dear for our illusion of grandeur

MOST of us see the Great City as in a dream. It is the sum of all our possible aspirations. A picturesque skyline, massive towers, romantic beauty! Crowds swaying through the lighted streets in pursuit of pleasure; flashing lights, dancing feet, and delightful foods with the flavor of Rome, Paris, Vienna, Pekin or London. A far cry from the Ladies' Social of Gopher Prairie! Libraries of rare books, vast museums and universities, the grand opera and the concert hall—the city of culture!

Our dream does not stop here; it has also a practical side. We see successful lawyers, engineers, advertising men, seated behind wide mahogany desks, protected and padded by secretaries, or speeding out to the golf-links and the country estate—the city of great opportunities! Chicago and New York, or at least Philadelphia, Boston, St. Louis and Los Angeles, lie at the end of that long, long trail which winds into the land of our dreams. Even if we remain in the home town, our aim is to make it grow fast enough to put us in the same class as these cities.

It is cruel to put the hard realities of daylight alongside these dream cities. But sooner or later most of us in the great cities awake to find that we have been grasping after a bubble, and that many of the real opportunities of living have slipped through our hands. For the city of our dreams is lost in another city which could occur to a sane mind only in a nightmare. It is in this second city that the great mass of people who swell the census statistics live and work and marry and die.

Look at the great city in its entirety: the turbid mass of traffic blocking the streets and avenues, the slow-moving

crowd of people clambering into street-cars, elevateds, subways, their arms pinioned to their sides, pushed and packed like cattle in ill-smelling cars, with a mingling of bodies which would be indecent were it not for the suffocation and discomfort that acts, as it were, as a counter irritant. Look at the dingy slums of the East Side, Long Island City, the stockyard neighborhoods, the Hump, or where you will: there is little enough to choose between the dark unsanitary tenements of lower Manhattan (some of them among the worst in the world) and the grey minimum of decency that West Philadelphia provides. What part does art, literature, culture, or financial opportunity play in the lives of the millions of men and women who go through the daily routine of life in our great urban districts? The city of dreams is as far away from them as it is from the denizen of Winesburg, Ohio.

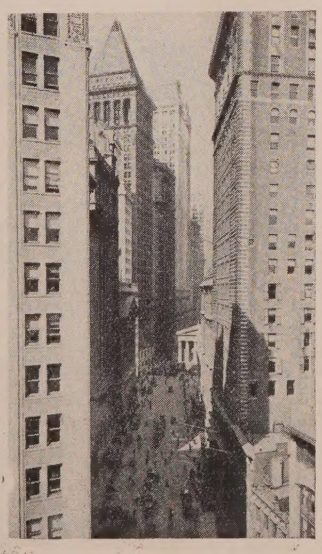
To the few the great city gives all: to the millions it gives annually less and less. In spite of sanitary codes, tenement house laws, and various other urban reforms, the prospects for decent human living have become distinctly worse in New York during the last generation. And New York, unfortunately, represents the goal towards which all our bigger centers are striving with might and main. For this reason I propose to examine New York's plight in greater detail, and to ask: Why the Great City? What are we putting into the Great City, and what are we getting out of it? How long can we stand the strains and difficulties that are peculiar to our large congested centers? What particular promise is there in planning for an increasing population in other large centers, if all these efforts are doomed eventually to result in the same difficulties? Is the Great City still the goal of our legitimate desires, or is it a monstrosity, a bloated spider that lures us into its web only to devour us?

ONE can get a better notion of the present plight of the Great City in general if we follow the greatest city, New York, through a series of breakdowns that have attended its growth.

Historically, the first great breakdown of the metropolis came in h o u s i n g. The crowding of the population into the growing port of New York had, as early as 1835, created a housing shortage and a slum area. Here conditions were so wretched that they drew down the attention of the Health Commissioner; and the Report of Housing Conditions in 1842 was the first of a long list that dealt with the housing problem. It is safe to say that New York has never caught up with its original shortage. Today half the population of Manhattan are living in quarters which are below the standard fixed as safe and sanitary by the tenement house law of 1901: these tenements are within reach of the unskilled worker because they do not possess running water, the heating apparatus and the sanitary facilities which represent the minimum standard for safe living quarters today. But what of the new law houses? The new tenements meet a minimum standard of sanitation and ventilation; but they do this at a price beyond the reach of two-thirds of the population; while their bleak courts, their white-washed walls, their dull streets, their occasional glimpse of the sun are still a long way from being the kind of environment in which mothers and children can flourish. Jane Addams showed us a long time ago what happened to "the spirit of youth in the city streets" when it was denied normal outlets for its energy and zest of life: but what have these bleak and overcrowded homes to offer the adolescent boy and girl?

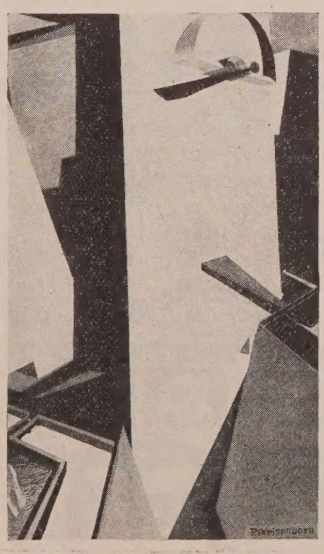
Congestion is such a normal process in the great city, and decent living quarters require such a restriction on the profits of the speculative builder, that even on the edge of the city, where the price of land remains comparatively low, four and five story tenements are erected. Superficial observers talk of this housing breakdown as if it were a product of the war. On the contrary, there is a chronic deficiency that has been piling up in every great city—in London, Paris, and Berlin, as well as in American cities—for the last hundred years. In the great city there are not enough decent quarters to go round; and even the decent quarters are not good enough. That is the sum and substance of the housing breakdown. In the acutest stages of the housing crisis the smaller centers in New York state did not feel the shortage as keenly as the great city. One can almost put the case in a mathematical form: the bigger the city the remoter are its chances of solving the housing problem. This does not, of course, ignore the fact that other causes than congestion have created housing difficulties quite frequently in small cities, and even villages.

The second breakdown of the big city occurred in its water-system and its sewers. In 1842 New York was compelled to push back into the Croton watershed for a sufficient supply of clear water, and by the beginning of the present century the shortage threatened so acutely that a new system was planned, with reservoirs in the C a t s k i l l s and the Adirondacks. If the thirst of the big city is not unquenchable, its tendency to grow has not at any rate been diminished: as a result, the necessity for still further aqueducts has already b e e n recognized. This process must come to an end either when the existing areas have been drained dry, or when the cost per capita for water-mains reaches a point at which water will become a luxury—supplied at an *uneconomic rate* for the same r e a s o n that bread and



Photograph by Underwood and Underwood

Today: the New York canyon street

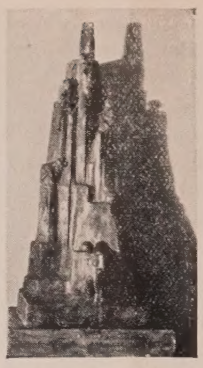


Painting by R. C. Weisenborn

Tomorrow: the windowless city?

Courtesy of New York World

Behind the skyline



Courtesy of Ehrich Galleries

The skyline of New York, a phantasy conceived by the sculptor, Dorothy Rice

shows and baths were provided in ancient Rome, namely, to keep the population contented. Through this continual reaching back for new water supplies New York city is draining away, quite literally, an essential resource from other communities, dependent upon their immediate supply.

A different sort of loss and disaster results from sewage-congestion. The difficulties that Chicago has experienced in getting rid of its sewage are notorious. The spread of sewage in the Hudson, the East River, and the Harbor has not merely destroyed the opportunities for bathing and caused the practical disappearance of North River shad; it has also, according to the latest report of the Joint Legislative Committee at Albany, cut the city off from 80 per cent of its shellfish, increased the dangers of typhoid (as nearly a thousand cases in the past winter testify) and now threatens the bathing beaches of Coney Island and Brighton.

In this case, the great city can avoid a complete breakdown only by building an elaborate plant and equipment which enables it temporarily to meet the problem. But it does this with blind disregard for expense. The growth of the city might be illimitable if its purse were illimitable; since the ingenuities of engineering can solve many of our difficulties if we can disregard the expense. The point is that the expense is becoming unbearable. The "overhead" of the city is increasing to a point at which it will outmeasure any of its tangible or intangible benefits. Then something must happen: something which will not be more growth and more expense.

We come now to the breakdown of the street system, and the inability of our overground and underground ways to carry the load of traffic. Our older cities were planned for four-story buildings at most. With the rise of the six-story building in the middle of the last century, traffic difficulties were felt in the shopping district of lower Broadway. An experimental safety bridge was even built. Today, not only in the lower part of Manhattan, but in vast sections between the Pennsylvania and the Grand Central Railroad stations, up Park Avenue and Broadway, and even over in Brooklyn—*today from two to six cities* have been piled up one above the other. This would be bad enough if only foot traffic and public vehicles were considered: the automobile has added the proverbial last straw, for each car, with its two or three occupants, occupies at least twice, and sometimes three or four times the space of pedestrians walking. Since our zoning in the built-up parts of the city has all been done in subservience to rising land values, none of our zoning provisions touch this problem; on the contrary, even in parts of the city where the four-story town has lingered, the twenty-story town is permitted—in fact, is being built. If our avenues were wide enough to carry comfortably the present and potential load of traffic, there would not, in a great many parts of the city, be room for the buildings themselves.

Our city officials and engineers are now hinting that the "solution" lies in building overhead streets. But even if it were conceivable that a complete system of aerial streets could be built for the population, this could be done *only at a cost which would fall back upon the land in the shape of taxes—and in turn this would make it necessary to build higher buildings and more streets!* To call this circle vicious scarcely does it justice. In point of fact no large city, however unbalanced its budget, attempts to keep up with its need for free channels of circulation. Every day the congestion increases—in spite of traffic policeman, curb setbacks, one-way streets, electric traffic signals. Even in Los Angeles, whose growth was coincident with the auto, the cars have multiplied faster than the streets have been widened. The end here is already in sight. There must come a time when every street in New York will be regulated as the streets in the financial district now are: individual vehicles will not be permitted to circulate through the business

Courtesy of the Cleveland Plain Dealer

Oh, we'll get along some way!

Courtesy of the New York World

The dark forest

and industrial sections during the day. This is what happened in prosperous commercial Rome when its congestion reached something like New York's present pitch; and it is inevitable here. It is equally inevitable in Pittsburgh's triangle, where it is now actively discussed, and in Chicago's Loop. And all the while the costs are piling up. The hard, practical men who think they can avoid this conclusion while they continue to congest the population and raise the land values are living in dreamland: they simply have not the courage to face the results of their own handiwork.

The breakdown of the mechanical means of transportation follows hard upon the collapse of the street system; the same causes are at work. As the city increases in height it increases also in area; for the railroad and subway must be introduced to carry the main load of passengers from the central district of skyscraper offices and lofts to the outlying areas. When the vacant land on the outskirts is filled up, the net result is congestion at both ends. This causes a demand for additional means of transportation. Beyond a point which big cities reach at a very early point in their career, more transportation routes mean more congestion. The only way this could be avoided is by duplicating the existing transportation lines; but this method would reduce the earnings of the existing lines by distributing the load, and it is never even considered except when an equal degree of congestion can be assured to the new line. The cost of all these facilities increases steadily as the lines are lengthened into more remote area so that in one way or another a subsidy must be introduced to support them at a price per ride the ordinary commuter can afford. At the present time New York, with its five cent fare, is losing more than $12,000,000 annually on the money it paid for constructing subways, and it will lose even more on the new lines, which the transit engineers estimate will be three times as costly.

Photograph by Underwood and Underwood

Feeding Philadelphia—and jamming the traffic in typical big-city fashion

This is one of the concealed costs of living in a great city: it parallels the hidden cost of other services, including sewers, elaborate street paving and complicated utilities but all the while this cost is pressing down on the economic well-being of the average citizen. In addition to the half billion or so that New York is preparing to spend in future on its subways, increased suburban facilities are now needed. D. L. Turner, the engineer of the New York Transit Commission, has suggested an expenditure of some three quarters of a billion dollars, of which he proposes that one-half be paid in taxes, partly by the city and partly by the suburbs: this will, in his opinion, take care only of the increase of traffic in ten years (to April, 1934) when the octopus-city must again face another colossal expenditure, if its bloated growth is to continue. It is possible that the annual saving in man-power, equipment and coal through such a regional redistribution of population as would enable the majority to walk to work, would pay the larger part of the necessary plant and equipment for new communities.

As things go now, on the other hand, there is no way in any of the large centers of avoiding a continuous breakdown in its transit facilities. They are, and they must remain, perpetually inadequate so long as people and industries, instead of being redistributed into planned communities, are sucked blindly into the metropolitan areas.

But perhaps all this congestion is justified by the fact that industry is conducted more efficiently in the big city? Perhaps this more than equals the other losses? Not at all; just the contrary in fact. In most industries it actually costs more to carry on manufacturing on the congested island of Manhattan than it does in smaller industrial centers. The reasons are plain. The transportation of goods through the streets and on railways is the very life-blood of industry; and in all our big centers these arteries are clogged. Lacking streets to keep pace with the multiple-city, the trucks in New York city spend less time in active hauling than in unproductive work—locked in congested streets, or waiting at the crowded loading stations and stores. The few hours a day that the trucks actually move at snail's pace has

What Congestion Costs

In Cincinnati studies were made of the speed at which vehicles could traverse the central business districts on each of its streets, hour by hour, throughout a business day. Rough estimates of the time which certain recommended changes in traffic regulation would save to the vehicles which, according to traffic count, made use of the streets indicated that approximately $100,000 per day was the cost of congestion. In Chicago certain estimates have been made with reference to the cost to the community of permitting cars to park within the "loop district"; $200,000 per day is approximately the figure reached. Judged by the total amount of traffic in these communities compared with New York, it would seem safe to estimate the cost of congestion in Manhattan Island at $500,000 per day.

And Then What?

Certain proposals for the relief of Manhattan north and south avenues have been frequently made and have received serious consideration by the New York city officials, and parts of them have actually been authorized. . . . Assuming that these proposals were all carried out . . . when they are taken together with the probable increase in traffic it is seen that they are insufficient. . . . It would appear that even with the changes outlined, the point of saturation would be reached at 48th Street in about the year 1930, and at 28th Street in about the year 1934.

—From a report on the highway traffic problem prepared by E. P. Goodrich and H. M. Lewis for the Committee on a Regional Plan for New York and its Environs, 1924.

already made the automobile uneconomical; and so the greater part of trucking is still done by horsepower in order to lower the overhead charges. The periodic congestion of freight terminals and docks—with the spoiling and rotting of perishable foods—present another facet of the same difficulty. At the pier, in the railway yard, at the factory, congestion obstructs the normal processes of industry.

Finally, the crowded conditions of the city have increased the overhead within the factory. The garment industry, for example, stands fourth among New York's manufactures; and many of its shops have moved into great skyscrapers in the central district. Here the high rent, the high taxes, and the high cost of fireproof structures have so raised the overhead costs that New York manufacturers, on their own confession, already find it difficult to compete with those in smaller cities, where these costs are lower. The higher cost of housing in the metropolitan area is likewise reflected in proportionately higher wages for the same type of work—or else it is borne by the worker in impoverished living conditions.

Certain industries are inevitably associated with great seaport and traffic junctions, like Philadelphia, New York and Chicago; but as the city increases in population the disadvantages for other kinds of manufacturing tend to counterbalance the advantages of the local market. When the local overhead cannot be shifted, and when smaller centers are, in spite of their poorer financial and business facilities, able to make their industrial advantages felt, the great city's industries will have to migrate or declare bankruptcy. We are still in the day of postponement; but the day of reckoning will come; and it behooves us to anticipate it. The question then will be whether industries are to migrate into the free area that lies immediately around the great city, or whether it will not pay, once moving must be faced, to locate at some point in a much larger area, where land values are not so high and where a finer environment may be provided more easily, without the risk of being gobbled up eventually—as Pullman was gobbled up by Chicago, and as Yonkers and Mt. Vernon are now being gobbled up by New York in its steady growth.

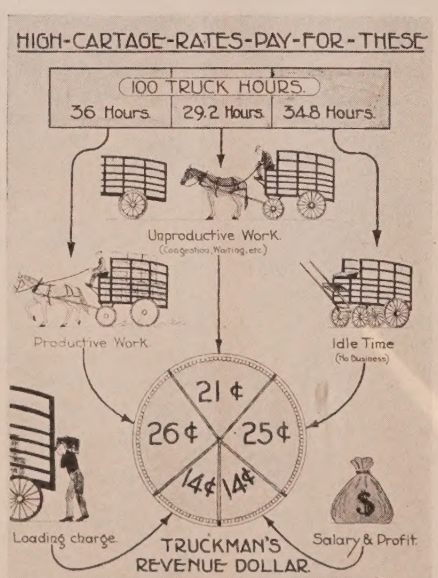
Inadequate housing facilities, inadequate water supplies, inadequate sewage, inadequate streets and inadequate transportation—these are but the larger and more obvious ills that derive from the congestion of population. They are enough, however, to show that the great city, as a place to live and work in, breaks down miserably; that it is perpetually breaking down; and that it will continue to do so as long as the pressure of population within a limited area remains. I have used New York merely for the sake of concrete example. New York's problem of housing in 1850 was Chicago's problem in 1890; New York's transit solution of 1900 is now Chicago's solution of 1925—and promises no better; and so on with the other details in the breakdown. Other cities can avoid New York's breakdown only by making an effort to avoid New York's "greatness."

Now all these breakdowns are costly in themselves; unfortunately the effort to put them off becomes even more costly. The result is that money and effort which should go into making the city more liveable—the money that should be spent on the education of children, on the maintenance of health, upon art, education, and culture—all this money and effort is devoted to expenditures which do no more than make the physical side of congestion barely tolerable. It is not merely that the effort to supply sufficient transportation routes, to widen streets sufficiently, is inevitably doomed to failure: what is worse is that even if it were successful it would be foolish and extravagant.

If we saw a family with ragged and neglected children, in a tumbledown shack, half of which was unfit for habitation, spending all its income and savings in providing a tiled bathroom and an automobile, we should conclude that this expenditure was unbalanced: the house should be put in order, the children clothed, the rooms sunned, aired and dusted, and the toilet arrangements adjusted to a decent sanitary minimum. Yet the expenditures of the great city are quite as wild and unbalanced as this. In order to reduce the horrors that result from the breakdown of housing and transportation, the city spends all its funds on futile palliatives. It lives in the midst of a sort of perpetual cataclysm. The great city—if I may sum up the case in a different metaphor—is like a man afflicted with hardening of the arteries, a man so conscious of his condition and so preoccupied with carrying out the incidental medical treatment (hopeless though it be) that he has no time to work, to think, to play, to create, or to perform any of those acts which separate a state of invalidism from a state of health.

All the breakdowns we have been studying are the result of a congestion of population; and the greater the magnitude of that congestion the more chronic the breakdown becomes, and the more completely does it embrace all the activities of the city. The big city is bankrupt. The little city that has adopted a program of mere expansion—and where is the little city that does not boast its first skyscraper—is headed in the same direction.

Once we actually face the situation, we shall, I am confident, be roused to the drastic public efforts that are necessary to deal with it. The day of the palliatives and the patent medicines is passing—in city-growth as in the fight on disease. We must do all that is necessary to combat the forces of congestion at their source. For in that direction lie the fundamental things that men and women care most deeply for—a beautiful environment, a home for children, an opportunity to enjoy the day's leisure and the ability to ride on the Juggernaut of industry, instead of being prostrated under its wheels.

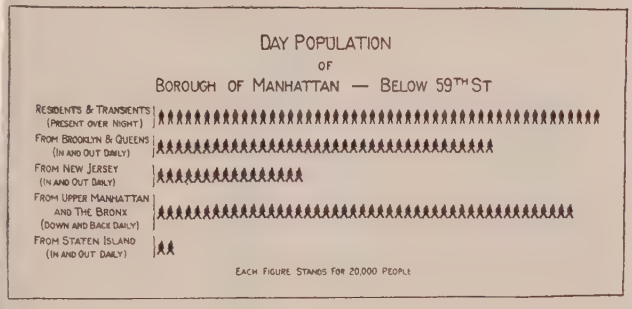


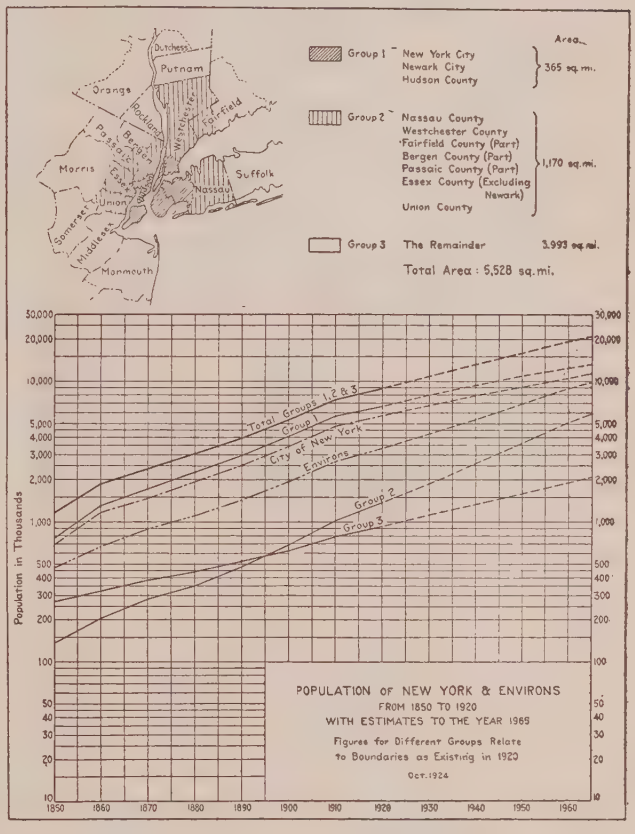
Courtesy of the New York Port Authority

Where the truckman's dollar goes—one reason for mounting costs of living in the dinosaur city

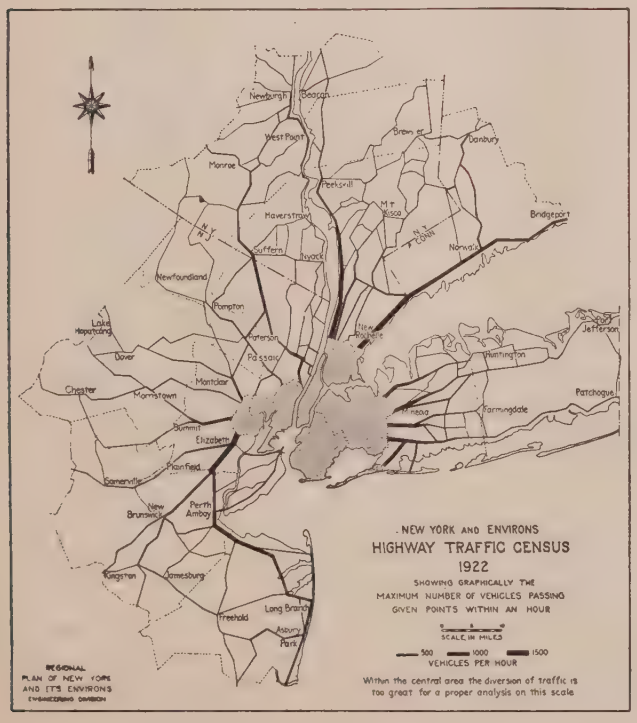
New York Today—and Tomorrow?

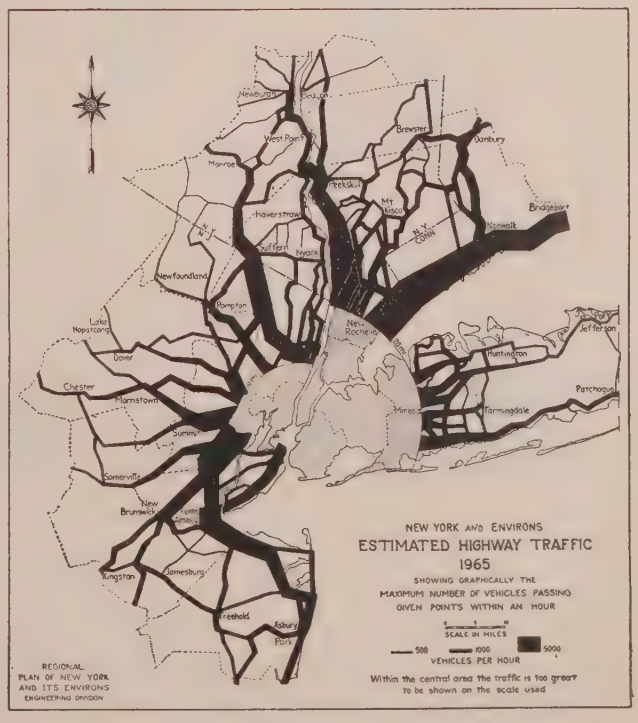
Fact and Forecast from the Studies of the Russell Sage Foundation

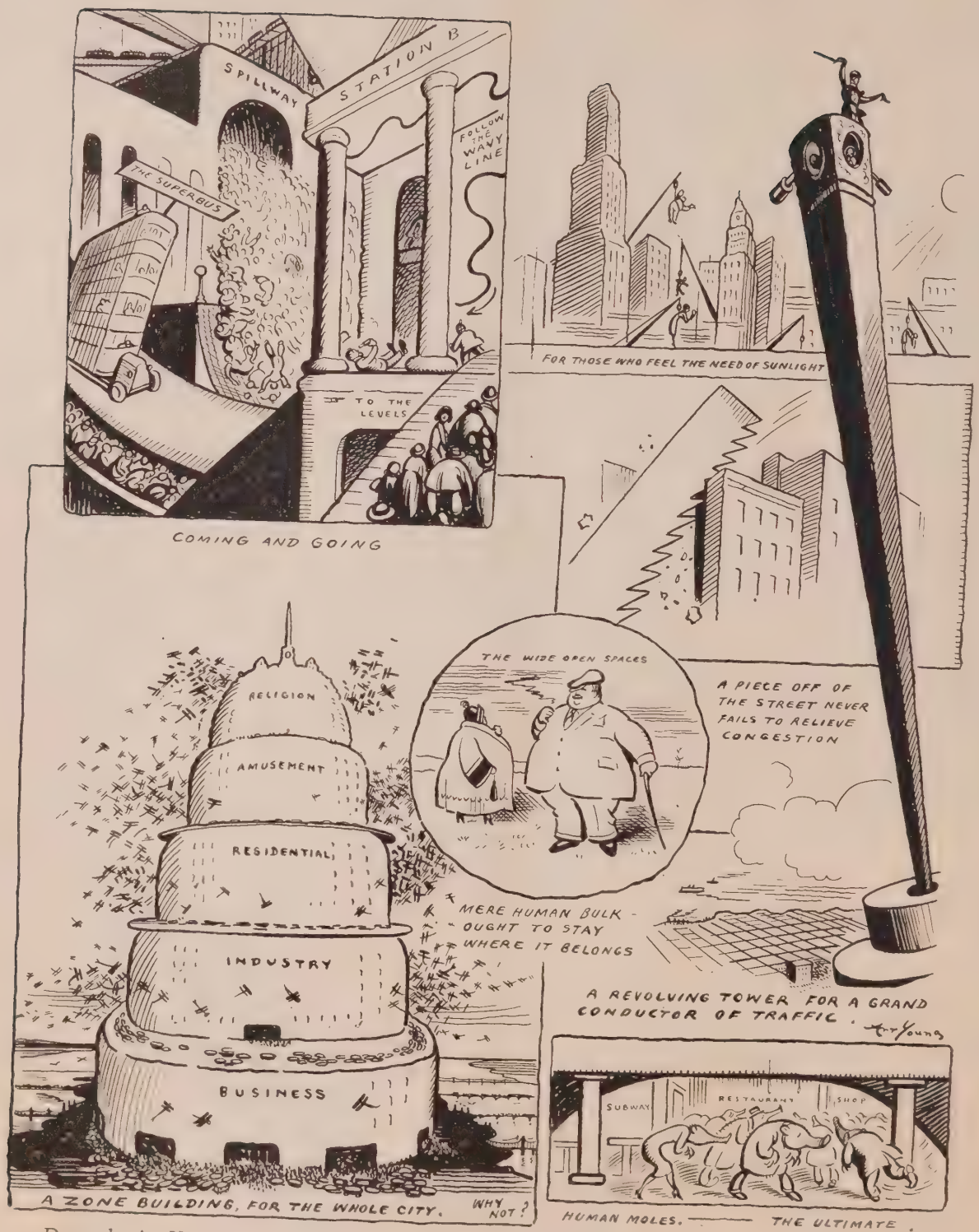

DAY POPULATION
OF
BOROUGH OF MANHATTAN — BELOW 59TH ST
RESIDENTS & TRANSIENTS (PRESENT OVER NIGHT)
FROM BROOKLYN & QUEENS (IN AND OUT DAILY)
FROM NEW JERSEY (IN AND OUT DAILY)
FROM UPPER MANHATTAN AND THE BRONX (DOWN AND BACK DAILY)
FROM STATEN ISLAND (IN AND OUT DAILY)
EACH FIGURE STANDS FOR 20,000 PEOPLE


Group 1 — New York City, Newark City, Hudson County — Area 365 sq. mi.
Group 2 — Nassau County, Westchester County, Fairfield County (Part), Bergen County (Part), Passaic County (Part), Essex County (Excluding Newark), Union County — 1,170 sq. mi.
Group 3 — The Remainder — 3,993 sq. mi.
Total Area: 5,528 sq. mi.
Population in Thousands
Total Group 1, 2 & 3
Group 1
City of New York
Environs
Group 2
Group 3
POPULATION OF NEW YORK & ENVIRONS
FROM 1850 TO 1920
WITH ESTIMATES TO THE YEAR 1965
Figures for Different Groups Relate to Boundaries as Existing in 1920
Oct. 1924

WHAT the metropolis faces today and may face tomorrow in appalling congestion is hinted at in this small sheaf of charts taken (with one exception) from the report on Highway Traffic in New York and its Environs, by Harold M. Lewis, just issued by the Committee on a Regional Plan for New York and its Environs. The work of this committee in surveying the need of the entire metropolitan district and preparing a general plan for it is now approaching fruition. Its progress has been noted in The Survey (May 20, 1922; March 15, 1923; May 15, June 15, 1924). . . . Of a total daytime population of 2,941,700, all but 982,000 must be moved into lower Manhattan every morning and out every night. In view of the conditions that now result both on the transit lines and on New York's streets, the forecast of swelling population both inside and outside the city (chart to the right) is a black prospect. The maps below tell graphically the story of the super-congestion of traffic which may be looked for outside the city by 1965 if present tendencies continue; within the city north and south traffic on the existing avenues in the business sections of Manhattan will reach the saturation point a generation earlier.


NEW YORK AND ENVIRONS
HIGHWAY TRAFFIC CENSUS
1922
SHOWING GRAPHICALLY THE MAXIMUM NUMBER OF VEHICLES PASSING GIVEN POINTS WITHIN AN HOUR
SCALE IN MILES
500 1000 1500
VEHICLES PER HOUR
Within the central area the diversion of traffic is too great for a proper analysis on this scale
REGIONAL PLAN OF NEW YORK AND ITS ENVIRONS ENGINEERING DIVISION


NEW YORK AND ENVIRONS
ESTIMATED HIGHWAY TRAFFIC
1965
SHOWING GRAPHICALLY THE MAXIMUM NUMBER OF VEHICLES PASSING GIVEN POINTS WITHIN AN HOUR
SCALE IN MILES
500 1000 5000
VEHICLES PER HOUR
Within the central area the traffic is too great to be shown on the scale used
REGIONAL PLAN OF NEW YORK AND ITS ENVIRONS ENGINEERING DIVISION



Drawn by Art Young

BOOST THE BIG CITY!

Our Stake in Congestion

By FREDERICK L. ACKERMAN

THE modern city man believes that good things will come to him in abundance as the by-product of the inflation of values. So firm is his faith in the Good to flow indirectly from accelerated growth that he is not at all disturbed by plans for the future of his city which must by the nature of things work out to make each day of his urban life a day of added complexity—as New York, for example, is groping for ways and means of financing more subways, bus lines, tunnels and bridges, two and three story streets, and more houses with apartments of fewer and smaller rooms, so that ultimately thirty or forty millions may live and do their work, with a constantly greater waste of time and energy, within the city's taxable area. If, in the face of mounting costs and difficulties he entertains the thought that some limit had better be placed on growth and concentration, he is instantly confronted with a host of his own preconceptions which frantically shout at him that this would be suicidal.

To account for this attitude on the ground that it is due to instinctive action—the herd instinct—is to overlook the historical background of the peoples whose descendants inhabit the city. For the most part, that background was a life conditioned by a rural environment and contact of individuals within small groups. Nowhere in the life history of these peoples do we find anything which even remotely resembles the organization of the modern urban center. Not so long ago it was true that the size and rate of growth of a community were of little moment to those who lived in it and who gained their living, for the most part, in materially productive work. That is not to say that the people of our early American communities, for example, gave no thought to such matters; but it is rather that within a short period of time a revolutionary change has taken place in the way city growth and size are regarded.

A community with a stable population is now referred to as a "dead one." It is not viewed as a promising field for investment nor does it invite the merchant. For the return upon an investment, the appreciation of values, the volume of business and the rate of "turn over" in the process of buying and selling are matters of primary concern, and the prospect is rated good or bad according to what the future seems to hold in store on these counts. If the community is growing, if concentration, congestion and traffic are increasing, the prospect is good. If not, it is poor. This point of view constitutes the core of the problem of the great city.

Responsibility for the shift to this point of view, like responsibility for the change in the character of our communities, may safely be lodged with two factors—machine industry and credit economy. It was, we may say, by historical accident that these two factors arrived upon the scene at about the same time. One operated to augment the effect of the other, so that the total effect constitutes a revolutionary change in the nature and character of the material environment and in the point of view under which men live and do their work.

The immediate effect of the introduction of the machine, the rise of the mill town and its further effect in the development of great industrial centers are so fully appreciated that we may pass the point without further reference. But how credit economy played a part in accelerating the drift into urban centers is evidently not so well understood, for we speak lightly of "distribution" or of "decentralization" of population—of the "garden city"—as if these could be achieved while men are animated by their present point of view; as if little more was involved than the moving of one's personal effects from one place to another. It may be that those who are growing restless and neurotic under the increments of discomfort which stalk the increments of value created by growth and concentration, look wistfully toward decentralization. But to count upon this as of sufficient driving force to bring about a change is to overlook, or at least to underestimate, the strength of absentee ownership and the appetite for congestion.

For when we look into the case of the city man—how he lives and upon what he depends for his living—it is readily seen that he has woven himself into a complicated web of inflated values and capitalizations *which involve the necessity of growth and concentration.* He may be the owner of land and buildings; probably he holds a minimum equity, bought with the hope of "return" and appreciation. The magnitude of that appreciation hangs upon the rate of growth and concentration. As a general proposition the purpose for which credit is used in the case of purchase of urban lands and the erection and purchase of buildings is to capture the appreciation of value which is a function of growth, concentration and even congestion. No speculator in urban lands and buildings will interest himself in an enterprise unless the prospects surrounding it show the promise afforded by growth and concentration. What holds true with respect to investor and speculator holds true also in the case of those who lend upon enterprises of this sort. Stability is not sufficient for the enterprising buyer or lender; there must be the promise of something more.

Going a step further away from the primary transaction, suppose that our city man holds stock in a local enterprise. In most cases the capitalization of such enterprises is based not upon cost or upon the materially productive effort involved, but upon the prospect of return. It is not ordinarily viewed as businesslike to embark in an enterprise where in establishing the capitalization something cannot be added to initial cost. And that depends upon the prospect of growth and concentration.

But the net is wider still. The city man may depend for a living upon a salary or professional fees, or on wages that fall short, but this condition does not modify his point of view as to what would be likely to add to his income. For he assumes with those others who benefit directly through ownership that any increment of value which might arise

out of expansion, concentration and congestion would ultimately work out to benefit him also.

So it would require many words to list those whose welfare seemingly hangs upon inflation of values in the urban center: that is hardly necessary. The upshot of it all is that the urbanite has an interest at stake—the income from property, land and buildings, profits, dividends, salaries, fees, wages, annuities, insurance, pensions, income of one sort and another—which seems to hang directly or indirectly upon the question whether the rate of growth, expansion and congestion keeps pace with the rate of capitalizing these prospects.

Whether the urbanite in his several interests stands really to gain or to lose when these promises are fulfilled is quite beside the point.

Having placed his eggs in the basket of "progress"—which means a bigger city—it is hardly to be wondered at that he pauses in alarm before any proposal that seems to threaten them. So the mere mention of stability in population is quite sufficient to send values tumbling and so scare off those who would seek a way out of the dilemma by any act that would put a check on growth.

But the problem has other roots. In every community outside the cities a younger generation is being educated. Running through that process of education and serving as its excuse and aim is the distinction drawn, as to status, between those who engage, as "workmen," in materially productive labor and those who do not. Periodicals of vast circulation carry the tales of the "successful" who forsook their home town with its simple employments and its "limitations," went to the city and ultimately became presidents of great corporations. Except for a few variations, as (possibly) in the case of agricultural education, the educational process in the rural areas is largely that of saying "move on." So throughout the rural areas and the small communities the forces of our culture are directing a host to our urban centers to sustain the capitalized values which are based upon the certainty that this host will come.

With the stage set for such a constant migration into urban centers from the rural areas, it is not difficult for the urban centers to draw from these same rural areas the funds available to serve as the reserve against credit advances to urban enterprises. Nor is it difficult to bring the rural investor into line. Stocks and bonds in city enterprises which rest for their security on the prospect of increasing growth and congestion may readily be disposed of among those whose aim in life is in harmony with the selfsame prospect. The recent rapid development of the use of mortgages upon urban properties as a basis for small investment, and the wider distribution of stock ownership in city enterprise of every character make us aware how widespread has become the vested interest which looks toward city concentration to produce income.

Hitherto, the gains to be had from the growth and intensive use of city land have been imaginary rather than real to the majority of those who live and do their work within them. But the wider distribution of stock to employes in banks and stores, in manufacturing plants, in cooperative or joint ownership enterprises, is rapidly giving a quality of reality to what was imaginary. The resulting frame of mind may be illustrated by reference to a sign displayed in a "cooperative restaurant." The sign was an invitation to invest in the enterprise; to insure its appeal the proposition was put this way: "The more you eat the greater your profit."

We may be fully aware that the accelerating congestion of urban centers cannot continue indefinitely. But we have based our wealth upon the prospect of continuous and accelerating growth, expansion and congestion. Paper securities carry face values that represent nothing more tangible than this prospect. So, with income from investment, the very aim of modern life, dependent upon an ever accelerating migration, can it be wondered at that the proposal to bring this to a close would arouse opposition?

The ground of current common sense is not likely to shift short of the time when the pressure of necessity will force a change of attitude. The prospect of pecuniary gain is not likely to be dispelled by theoretical prophecy. So congestion runs its course. We are not likely to avoid the collapse that will follow the deflation of values when our cities reach the saturation point and stability succeeds the fever of expansion.

It Pays—a Picture with a Moral

Courtesy of the New York World

Buy real estate. . . .

The value of real estate depends on population.

Mothers, bringing new children into the world, give real estate its value...

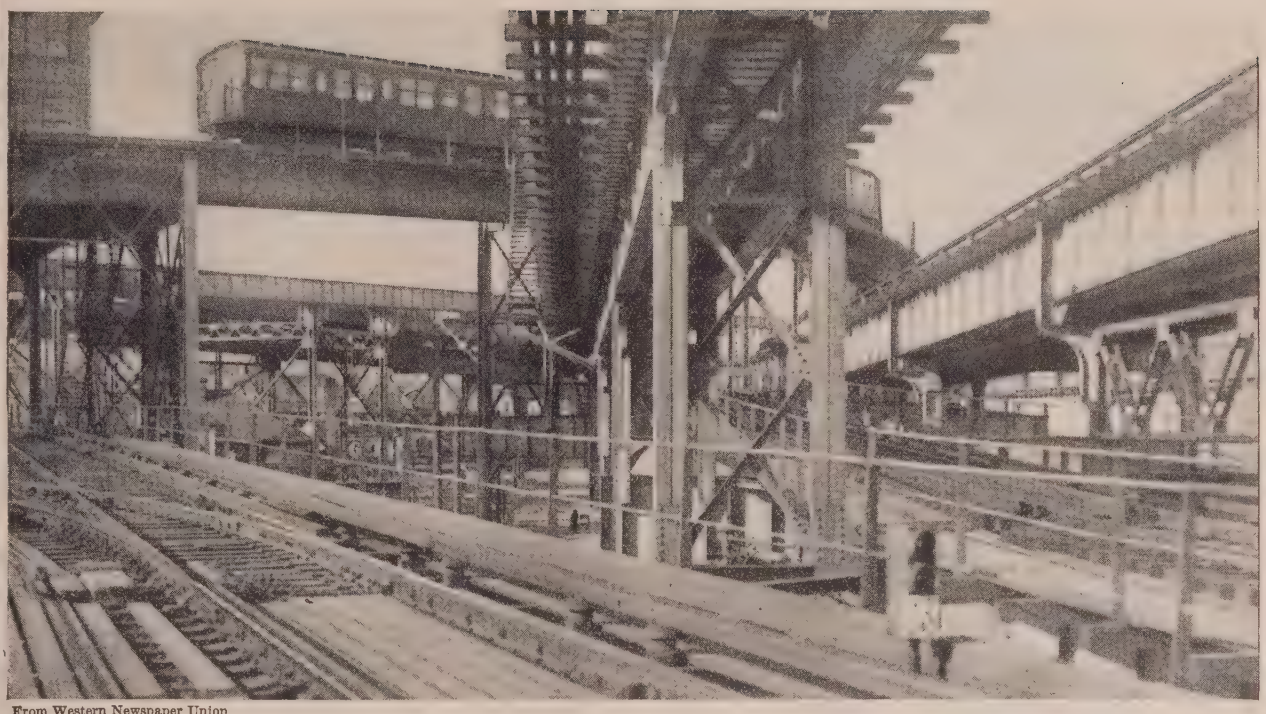
Six millions of people are in Greater New York now. Ten millions of people are right around New York. Twenty millions of people will be in Greater New York and fifty millions of people right around New York.

Where you have dense population, you have constantly increasing real estate values.

Watch your opportunity, find which way the population is growing, use your best judgment, buy something that you are sure is worth now and will always be worth today's price, and good luck to you in the increasing price.

But buy real estate.

—From the New York Evening Journal



From Western Newspaper Union

Three million dollars' worth of tracks at this particular junction carry New Yorkers from places where they would rather not live to places where they would rather not work and back again—270,000 trips a day

Coals to Newcastle

By STUART CHASE

Why railroads? To bridge the widening gap between forest and factory, foundry and mine, worker and workshop and farm. If we should bring work, materials, worker and consumer into a planned relationship, we could cut our swollen transportation bill, freeing capital and energy for more productive use

FROM the standpoint of communities planned and designed to furnish a maximum of economic goods with a minimum of human effort, how much of the current movement of men and goods in the United States can be written off as loss, leakage and waste? On the basis of profitable investment, the philosophy of "what the traffic will bear," and present technical operation, there is waste enough in transportation, as Mr. Hoover himself will tell you. The minute, however, planned values are substituted for going values, the figures of the efficiency engineers take to cover before a margin of leakage which gaps like the jaws of a crocodile. From the latter standpoint we venture the assertion—calculated to outrage all the admittedly hard-working traffic managers of all the two hundred and fifty thousand miles of railroads in these states —a good part of transportation is not economically necessary.

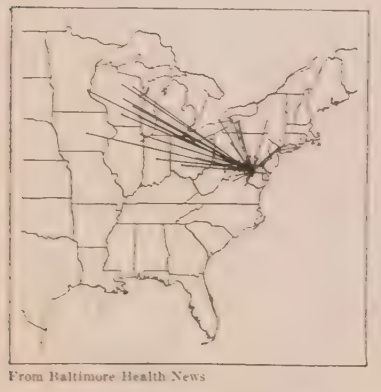
An aeroplane observer with a quite celestial eyesight, cruising over the continent of North America, would see certain physical things—natural resources, the plant for their conversion and distribution, and the people concerned with producing and consuming them. These people, on the whole, except for wandering streams of the unemployed and a sprinkling of those psychological twins, the gentleman of the club window and the gentleman of the road—are extremely busy with their resources and their plant. They are blasting coal and iron out of mountains, and pumping oil out of the ground, and felling the virgin stands of the forest at a rate unprecedented in human affairs. Lumber is being cut four and one half times faster than it is grown, and more oil has been won since 1913 than in all the previous years of history. Such of this raw matter as they do not waste in the mine and the well and the forest and the farm —about half the total loosened from the crust of the planet—they proceed to move with great speed and dispatch, here, there and everywhere, and sometimes back again, to be hammered and shaped and pounded in the mills and factories; moved, amidst the tears and the exhortations of purchasing agents, from process to process—cattle into green hides, hides into leather, leather into boots—rerouted, re-

shipped, consigned and returned, loaded, unloaded and reloaded; moving in a gathering cloud of advertisers, drummers and go-getters—beseeching and praying like drivers around a stampeded elephant. So it goes on through jobbers and wholesalers and commission men, in and out of warehouses, up and down elevators, over the rails to the retailers —where the advertisers again crack their larynxes—into trucks and out of them, onto shelves and down from them; and at last—so much as hasn't been joggled off and crushed and spoiled in transit—into the hands and the stomach of the consumer.

An incomparable display of energy and rush, an altogether praiseworthy disregard of life and limb as fabricated fragments of terra firma are hurled from Maine to California and from California to Maine. Gilbert and Pogue have estimated that the mechanical energy alone released in this process (150 million horsepower) is the equivalent of the labor of three billions of slaves—or thirty helots for every man, woman and child in the country! How many slaves are making as against how many are moving, they do not specify, but it is safe to assume that transportation accounts for a considerable fraction of the total.

Thirty servants! Greece in her prime only averaged five helots per family. As good Americans, this news increases our chest measure; but as consumers we find a certain difficulty in getting our helots to do the specific things that we want done. We could use them—if we could find them. But they are too busy building industrial plants—when the unused capacity of the existing industrial plant runs better than 40 per cent; or moving lumber from Oregon to New England, or apples from Washington to New York, or shunting train loads of soft coal in and out of Chicago, or pumping people, very unhappy people, back and forth in subways, or driving ten oil wells to the acre when the technology of oil recovery calls for not more than one, or telling the world in letters of flame and fire (there is a single electric sign on the Cleveland Credit Company's building which burns more current than the city of Illyria) that what the country needs is more chewing gum.

The aeroplane pilot observes the consumer, who is also the producer, who is also *homo sapiens* and whose wants presumably are the reason for all this grinding of wheels, deploying of products, and rushing about of mechanical slaves. He is bunched into cities where only an hydraulic press could pack him any closer, or scattered in lonely farm houses over rich and unutilized spaces. If literate, he may read the statistics of the total tonnage of coal mined, the board feet of lumber cut, the square feet of sign board area, the total freight train miles, the gross output of automobiles — which, if placed end to end . . . the four quadrillion words turned out annually by the indefatigable printing presses of his Republic, the twelve acres of forest which go into the Sunday Times-Examiner—his head reels and his bosom swells, but the landlord keeps right on raising the rent, and it costs no less to eat.



From Baltimore Health News

Unplanned milk shipments: Baltimore taps Chicago, Cleveland, Philadelphia and New York milk supply territory, but there is a notable lack of shipments from the areas just to the south

To Cut Transportation Wastes

Here are the bones of a national plan that might revolutionize our economic life by eliminating useless hauling of goods and people:

1. Regions delimited on the basis of natural geographic entities.
2. A maximum of foodstuffs, textiles and housing material grown and manufactured in the home region.
3. A minimum of interregional exchanges based only on such products as the home region cannot economically produce.
4. A complete power plan for the home region, linking into high transmission interregional lines where necessary.
5. A short haul, motor truck method of local distribution, based on the principle that a straight line is the shortest distance between two points.
6. A decentralized distribution of population.

Now what, specifically, is the matter? Where does energy, particularly transport energy, go to waste, and how would planned communities reduce this waste so that the wayfaring man instead of falling behind, or making unheard of efforts to keep where he is, can begin to gain ground against the cost of living? As we said in the opening paragraph there are two basic aspects involved: first, the waste which flows from current transportation methods assuming no change in population grouping or industrial plant location; second, the waste which arises because communities are not regionally planned. The former is illustrated by the historic charge of Brandeis that the railroads were wasting a million dollars a day, the latter by the unbearable congestion of New York city, or by the failure to locate eastern industries nearer western raw materials. We try to answer the question primarily from the second point of view, but many of the following facts and figures come from investigations dealing with the going mechanism.

The Massachusetts Commissioner of Agriculture recently reported for the Boston market "the arrival of eggs from China, peaches from Africa, various fruits and vegetables from Argentine, and iceberg lettuce shipped 3,000 miles across the continent from the Imperial Valley in California." And he pointed out that nearly all those products are grown or could be grown in New England.

The Geological Survey made, in 1921, a study of cross-hauling in coal. It found Kentucky lump coal moving into Indiana, Illinois and Ohio past mines in these states producing coal of an identical quality. It found West Virginia coal supported by a special rate differential moving to the Great Lakes to compete with Ohio coal which only needed to travel half the distance. The result had been a serious overdevelopment of West Virginia mines to take—or try to take—a traffic for which it was economically unfitted. Equal grades of coal are solemnly moved from Illinois mines

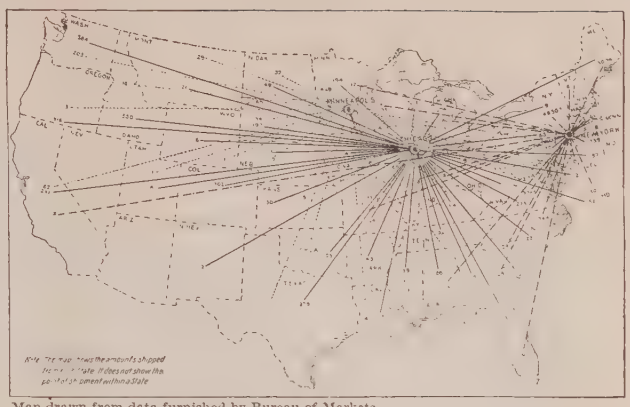
to be sold in Ohio, and from Ohio mines to be sold in Illinois. Coal cars, at the dictation of spot market speculation, "move into Chicago and out, and back to Chicago again, like dice in a gambling game." During the war, the Fuel Administration saved 160 million car miles by "zoning" coal; that is by adopting the regional principle and making deliveries to consumers from the nearest mine. With the return of normalcy, these savings collapsed.

Pulp wood is imported from Norway and shipped 1,000 miles inland. The center of production of lumber—according to the accredited laws of "skimming the cream"—has shifted progressively from New England to the Pacific coast. The shipments of Western timber to the East, where the mills are concentrated, is increasing all the time. The usual route is via the Panama Canal to New York and thence by rail inland. Thus we have mills without forests in the East and forests without mills in the West. Meanwhile 60 million acres of potential forest lands accessible to the Eastern and Lake States are lying unproductive—their only crop an occasional devastating fire.

Fifty per cent of all manufacturing in the country is done in the northeast sea board region, 35 per cent is done in the Middle West, 9 per cent in the South, 6 per cent on the Pacific coast. If we plot on a map the location of factories, and superimpose above it a map of sources of raw material—coal, cotton, wool, iron, ores, leather, lumber, grains—we will find that the lack of correlation is amazing. To supply the mills of the eastern seaboard, bulky raw materials must be moved by long haul from their points of origin in the West and South—cotton from Texas to New Bedford, hides from Kansas City to Massachusetts —there made up into finished products and flung back again in large part for ultimate consumption near the place where they started. Perhaps the supreme example—though it is not a local one—is the movement of kangaroo hides from Australia to Lynn, there to be made up into shoes and carried *in toto* 10,000 miles back again—for only Australians will wear kangaroo boots!

Loose cotton, according to the Bureau of Foreign and Domestic Commerce, is now hauled long distances to be compressed and then hauled back over the same route duly baled. Two cars of baled can carry the equivalent of four cars of loose cotton. E. G. Booz, writing in the Annals of the American Academy of Political and Social Science, finds that the average retailer only sells 10 per cent of the coffee used in his own logical territory. The other 90 per cent is subject to cross-hauls from illogical territory. The Joint Commission of Agricultural Inquiry reports the condition of the Chicago wholesale provision market which, though a local reorganization is now in process, may fairly represent city marketing problems. It is located on a narrow street in the congested Loop district. To it through the hurly-burly of the streets are hauled fruits and vegetables from terminals anywhere from two blocks to two miles away. Arriving, the foodstuffs are unloaded, sold, reloaded and solemnly hauled back again, often to the identical terminal from which they started their metropolitan tour.

Gilbert and Pogue point out, in America's Power Resources, the astonishing kindliness of nature in furnishing those regions in America which are short of coal deposits with abundant water power. Nature has balanced the power load. Do we take advantage of it? We do not. We haul coal into water power states, and develop water



Map drawn from data furnished by Bureau of Markets

Unplanned potato shipments: cross-hauling of car-lots of white potatoes unloaded in 1917 at New York, Chicago and Minneapolis

powers in coal states. The late Charles P. Steinmetz once worked out a power plan for New York. There is no coal in New York, but there is 4,200,000 of undeveloped horsepower to be readily derived from falling water, of which only 1,300,000 is now utilized. If all were utilized, Steinmetz concluded that it would take the place of some 40 million tons of coal now shipped into New York, would serve to electrify all the railroads, save the labor of 500 locomotives, 15,000 coal cars, save 400 millions in railroad equipment and give us smokeless cities. In short, the saving in transportation costs to be made from giant power regional plans is almost limitless: *today one-third of all railroad freight is coal.* Giant power by providing energy on a balanced load basis from water fall and central power stations at the mine mouth, could eliminate a large fraction of this traffic, and eliminate the untold cost of smoke damage along with it (See the Giant Power issue of Survey Graphic, March, 1924).

To make a bad matter worse, Ford finds that freight cars are absurdly heavy. The weight, he says, ought to be in the load not in the car. Stronger steel cars at one-third the present weight would give vastly greater efficiency, for heavy cars "bang out the roadbed and bang out themselves." Furthermore, says Ford, we only get 6 per cent of the potential power of coal out of that burned in a steam locomotive. "If the primary purpose of the railroads is to buy coal this is all right, but if the purpose is to move goods as economically as possible we cannot continue to waste this power." Electrification will enormously decrease the transportation cost per unit moved.

Two-thirds of all railroad expenses are terminal expenses, and two-thirds of this is wasted in the unplanned, competitive chaos of terminal facilities, according to E. J. Clapp. He estimates that the prevailing competitive policy employs two to three times the manpower, equipment and material that a unified terminal plan would necessitate. Terminal markets are in continuous stages of choke and suffocation. In the testimony taken by the Federal Trade Commission in re the port of New York, a wholesale fruit dealer stated that enough fruit is lost in New York through inadequate facilities for handling to supply the population of a city the size of Pittsburgh. This waste can be largely reduced by railroad consolidation, irrespective of the element of decentralization—as proved by the performance of the Railroad Administration during the war.

Sonnet for a City

By HARRISON DOWD

Mighty you are and mighty you have been
With all this thunder, all this gold and steel;
But I have seen you sleeping, I have seen
A certain prophecy of death; I feel
Your great and glossy ways are doomed to be
Upon some distant day but dusty stone;
Your glitter gone, your present pride I see
Some day, unhinged and vacant and undone.
And I see men from fertile country-sides
Viewing your crumbled corridors to learn
Of a young age when gold and silver tides
Flung them about here. But in time they turn
Back to their homes, leaving you here to stand
Manless and desolate as desert sand.

Through lack of regional planning Maine and New York farmers compete for the potato market. Great overproduction necessarily results. In some years 40 per cent of the Maine potato crop will be left to rot in the fields. And this clumsy process leaves room for the further folly of speculative marketing. Said the New York World on June 15, 1924, "Thousands of packages of cucumbers and other fresh vegetables were dumped on the New York offal dock today." In the fall of 1920 the author steered his canoe with difficulty through carloads of good watermelons which had been dumped into the Potomac from the Washington docks in order to keep the market from going below twenty-five cents. The New York Commissioner of Markets recently pointed out how two hundred carloads of Thanksgiving turkeys were held on sidetracks to enable dealers to face a holiday price of twenty-five cents a pound. The same gentleman quotes the case of ten carloads of Texas onions consigned to New York, worth $10,000 at prevailing prices, yet dumped on the Jersey meadows to prevent breaking the market. All the farmer received was a bill for freight charges!

But even more important than the elimination of such wastes are the savings to be made through decentralization of population. Henry Ford has discovered that highly standardized, highly subdivided industry need no longer become concentrated in large plants with all the inconveniences of transportation and housing that hamper such community arrangements. A thousand or five hundred men ought to be enough in a single factory; then there would be no problem of transporting them to work or away from work, and there would be no slums or any of the other unnatural ways of living incident to the overcrowding that must take place if the workmen are to live within reasonable distance of a very large plant. . . . "The belief that an industrial country has to concentrate its industries is not well founded."

Ford, not as a philosopher, but as a business man of unusual foresight, has not only eliminated much waste in the stream of production from ore mine to finished flivver but has been driven by the logic of operating costs to decentralize, and is now building valve plants and other small units out in the country where his workers may walk comfortably to their benches, and farm on the side if it pleases them. (See Survey Graphic for March and April, 1924.)

Consider what the jam and congestion of great cities cost us in added transportation load. Subways and tubes built and operated at enormous outlays, yet from the point of view of a planned region—and from Ford's new industrial point of view—quite unnecessary. The total investment in New York's rapid transit system is $541,000,000 to date, with over 100 millions more in new construction contracted for. The annual operating costs are $73,000,000, to pay for a total of 2.3 billion passenger rides. There are over 1,100 miles of subway, elevated and surface tracks. And state and city authorities are now at loggerheads over the expenditure of $275,000,000 more.

Finally the Congressional Joint Commission of Agricultural Inquiry, investigating wastes in distribution, has announced a conclusion which I can only regard as treasonable to all the immemorial canons of sturdy self-help upon which the Republic is founded. As a result of its researches it finds that the hope and glory of America—the national advertiser—in attempting to break down "sales resistance" and sell his wares from coast to coast is *costing the consumer more in uneconomic distribution than can be saved by large scale unit production.* National markets tend towards making goods cost less at the factory door, but the saving is more than eaten up by cross-hauling and the burden of high pressure salesmanship. "Manufacturer after manufacturer," says the Joint Commission, "has repeated this process of sales forcing until the public and the retailer are confronted by a confusing urge to buy more products in constantly increasing variety. Buying habits are upset and consumers cease to give their patronage to individual merchants, and not only scatter their buying within the community, but make purchases outside of it." Retailers, the commission finds, are thus ceasing to be an economic factor serving their local community with what the community wants.

What can we do about it?

We are already beginning to measure ourselves and our population-distribution in the higgledy-piggledy of "business as usual" against ourselves regrouped and relocated in communities planned for getting the most out of life. With the same population that we now have, consider what a difference there would be in the transportation load if people were grouped into communities and regions specifically planned for the maximum of local subsistence and the minimum of cross-hauling—interregional as well as local—communities based on natural economic and geographical considerations. An Appalachian region, a Pacific coastal region, and so on.

The regional planning of communities would wipe out uneconomic national marketing, wipe out city congestion and terminal wastes, balance the power load, take the bulk of coal off the railroads, eliminate the duplication of milk and other local deliveries, short circuit such uneconomic practices as hauling Pacific apples to New York consumers by encouraging local orchards, develop local forest areas and check the haulage of western timber to eastern mills, locate cotton mills near cotton fields, shoe factories near hide producing areas, steel mills within striking distance of ore beds, food manufacturing plants in small giant power units, near farming belts. Gone the necessity for the skyscraper, the subway and the lonely country-side!

Granting the psychological possibility of planning and operating communities with such unheard-of common sense —and no mean grant it is—we report again and finally: a good part of transportation is unnecessary.

"El Cerrito," from the original etching, courtesy of the F. Denks Gallery

Elements of the Region

From the original etchings by RALPH M. PEARSON

PERHAPS an eagle flying into the sun has this simplified vision of earth. It is seldom that the layman or even the artist can look at his world, free and detached, and arrive at an understanding of the fundamental elements of design contained in it. Our feeling when we first saw Ralph M. Pearson's new work, was, "Here is the very stuff of regional planning"—which is another way of saying that he grasps and interprets the concept underlying this special number of Survey Graphic, arriving at it independently and in his own way.

Some of Mr. Pearson's earlier plates—Toilers of the City—were published in Survey Graphic for November, 1922. Since then his work has grown into a more vigorous style. After years of adjustment he has been able to bend the vitality which is inherent in the so-called "modern" movement to his own creative ends. The prints here shown are probably the strongest of his later work and present a classic integrity not always to be found in the followers of the older schools of etching in England and in America.

His book, How to See Modern Pictures, just published by The Dial Press, is written for laymen and attempts to stimulate awareness of the basic principles underlying modern work which correlate it with the great arts of the past. There is in the book the vigorous honesty and respect for the elements of design that is to be found in the etchings.

"Cypress grove," from the original etching by Ralph M. Pearson, courtesy of the Weyhe Gallery

"Mountains at Llano," from the original etching by Ralph M. Pearson, courtesy of the Weyhe Gallery

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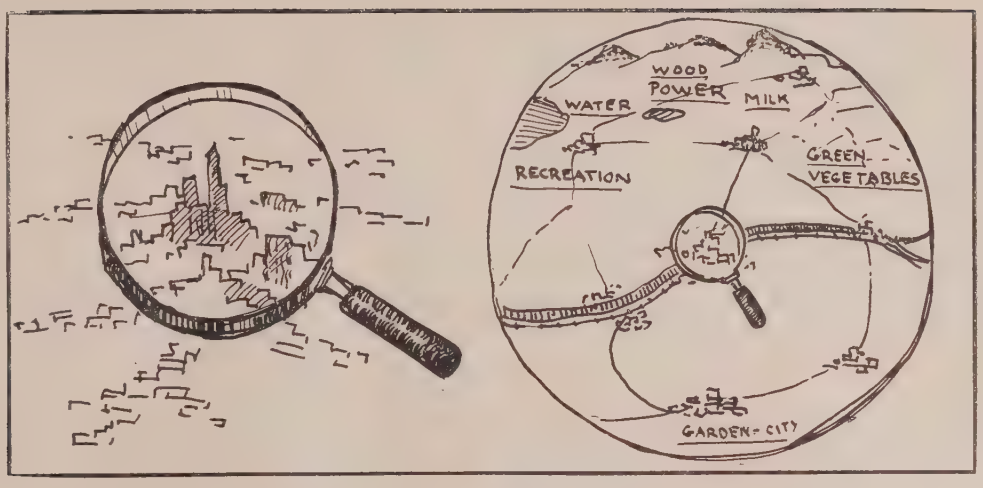
A REGION IN THE MAKING



Regions—To Live In

By LEWIS MUMFORD

THE hope of the city lies outside itself. Focus your attention on the cities—in which more than half of us live—and the future is dismal. But lay aside the magnifying glass which reveals, for example, the hopelessness of Broadway and Forty-second Street, take up a reducing glass and look at the entire region in which New York lies. The city falls into focus. Forests in the hill-counties, water-power in the mid-state valleys, farmland in Connecticut, cranberry bogs in New Jersey, enter the picture. To think of all these acres as merely tributary to New York, to trace and strengthen the lines of the web in which the spider-city sits unchallenged, is again to miss the clue. But to think of the region as a whole and the city merely as one of its parts—that may hold promise.

Not merely a wistful hope of a better environment, but sheer necessity, leads us thus to change our approach to the problem. For cities, as the foregoing articles show are becoming too big; as they grow they fall behind in the barest decencies of housing; they become more expensive to operate, more difficult to police, more burdensome to work in, and more impossible to escape from even in the hours of leisure that we achieve. The forces that have created the great cities make permanent improvement within them hopeless; our efforts to plan them lag pitifully behind the need when indeed they do not foster the very growth that is becoming insupportable. We are providing, in Professor Geddes' sardonic phrase, more and more of worse and worse.

Not so with regional planning. Regional planning asks not how wide an area can be brought under the aegis of the metropolis, but how the population and civic facilities can be distributed so as to promote and stimulate a vivid, creative life throughout a whole region—a region being any geographic area that possesses a certain unity of climate, soil, vegetation, industry and culture. The regionalist attempts to plan such an area so that all its sites and resources, from forest to city, from highland to water level, may be soundly developed, and so that the population will be distributed so as to utilize, rather than to nullify or destroy, its natural advantages. It sees people, industry and the land as a single unit. Instead of trying, by one desperate dodge or another, to make life a little more tolerable in the congested centers, it attempts to determine what sort of equipment will be needed for the new centers. It does not aim at urbanizing automatically the whole available countryside; it aims equally at ruralizing the stony wastes of our cities. In a sense that will become clear to the reader as he follows the later articles in this number, the civic objective of the regional planning movement is summed up with peculiar accuracy in the concept of the garden-city.

There are a hundred approaches to regional planning; it brings to a head, in fact, a number of movements and methods which have been gathering momentum during the last twenty or thirty years. But each approach has this in common with the others; it attempts to promote a fuller kind of life, at every point in the region. No form of industry and no type of city are tolerable that take the joy out of life. Communities in which courtship is furtive, in which babies are an unwelcome handicap, in which education, lacking the touch of nature and of real occupations, hardens into a blank routine, in which people achieve adventure only on wheels and happiness only by having their minds "taken off" their daily lives—communities like these do not sufficiently justify our modern advances in science and invention.

Now the impulse that makes the prosperous minority build country estates, that causes the well-to-do professonal man to move out into the suburbs, the impulse that is driving the family of small means out upon the open road, there to build primitive bungalows regardless of discomfort and dangers to health, seems to us to be a pretty common one. These people are in the vanguard of a general effort to get a little joy back into life. At present this exodus is undertaken blindly and, as Mr. Wright shows, all its promises are

illusory, since a helter-skelter development such as is now going on in the countryside around our big cities promises only to spoil the landscape without permanently satisfying the hungry urbanites. The community planning movement in America, and the garden-cities movement in England are definite attempts to build up a more exhilarating kind of environment—not as a temporary haven of refuge but as a permanent seat of life and culture, urban in its advantages, permanently rural in its situation. This movement toward garden cities is a movement towards a higher type of civilization than that which has created our present congested centers. It involves a change in aim as well as a change of place. Our present congested districts are the results of the crude applications of the mechanical and mathematical sciences to social development; our garden cities represent fuller development of the more humane arts and sciences—biology and medicine and psychiatry and education and architecture. As modern engineering has made Chicago or New York physically superior to Athens, whilst the labyrinth of subways and high buildings is more deficient for complete living than a Stone Age cave, so we may expect that the cities of tomorrow will not merely embody all that is good in our modern mechanical developments, but also all that was left out in this one-sided existence, all the things that fifth century Athens or thirteenth century Florence, for all their physical crudity, possessed.

On its economic side, this movement towards a fuller human environment goes hand in hand with what has been aptly called the industrial counter revolution. For a hundred years in America business has been concentrating financial resources, concentrating factories and urban districts, attempting to create material prosperity by producing goods which could be quickly "turned over." The paper values have increased enormously even in the brief period from 1900 to 1920; but most statisticians seem agreed that the real wages of the majority of workers have remained nearly stationary. The new industrial revolution is an attempt to spread the real income of industry by decentralizing industry, by removing some of the burden of the business overhead and sales-promotion, ground rents in congested districts, and so forth. Far-sighted industrialists like Dennison and Ford are already planning this move, and business men like Edward Filene feel that business is at an impasse unless decentralization is followed as "The Way Out." Regional planning is an attempt to turn industrial decentralization—the effort to make the industrial mechanism work better—to permanent social uses. It is an attempt to realize the gains of modern industry in permanent houses, gardens, parks, playgrounds and community institutions.

Finally, regional planning is the New Conservation—the conservation of human values hand in hand with natural resources. Regional planning sees that the depopulated countryside and the congested city are intimately related; it sees that we waste vast quantities of time and energy by ignoring the potential resources of a region, that is, by forgetting all that lies between the terminal points and junctions of our great railroads. Permanent agriculture instead of land-skinning, permanent forestry instead of timber mining, permanent human communities, dedicated to life, liberty and the pursuit of happiness, instead of camps and squatter-settlements, and to stable building, instead of the scantling and falsework of our "go-ahead" communities—all this is embodied in regional planning.

It follows pretty plainly from this summary that, unlike city planning, regional planning is not merely the concern of a profession: it is a mode of thinking and a method of procedure, and the regional plan itself is only a minor technical instrument in carrying out its aims. The planners of the Ontario power project are genuine regional planners; Mr. Ford in his schemes for industrial decentralization is a regional planner; the Pennsylvania State Power Commission, as Mr. Bruère makes clear, is handling an essential element in regional planning. The Chicago Regional Planning Commission with its emphasis on transportation, power and industrial development over wide areas, the Sage Foundation Study in New York with parts of three states included in its "environs" mark the break with our old method of treating the city as a unit by itself. The New York State Housing and Regional Planning Commission has made a series of important preliminary studies which radically cut loose from the older tradition and employ the whole commonwealth rather than the large city as their base.

Moreover the aim of regional planning is not confined to those who are interested in the development of industries and resources. The cultural forces that have begun to challenge the dominance of the big city are plainly working in the same direction. So the little theater movement, by building local centers of culture instead of waiting patiently for the crumbs dropped from our metropolitan table, is essential to regionalism; and in the same way our new experimental schools, which have showed the rich educational opportunities that come from exploring and utilizing the whole living environment rather than sticking to the pallid routine of books, find themselves handicapped in the existing centers and demand a new environment patterned on the human scale, in which the school may work intimately in touch with the home and with industry and with the surrounding world of nature.

In sum, regional planning does not mean the planning of big cities beyond their present areas; it means the reinvigoration and rehabilitation of whole regions so that the products of culture and civilization, instead of being confined to a prosperous minority in the congested centers, shall be available to everyone at every point in a region where the physical basis for a cultivated life can be laid down. The technical means of achieving this new distribution of power and culture are at hand. The question before us is whether the automatic operation of physical and financial forces is to burke our rising demand for a more vital and happy kind of existence, or whether, by coordinating our efforts and imaginatively grasping our opportunity, we can remold our institutions so as to promote a regional development—development that will eliminate our enormous economic wastes, give a new life to stable agriculture, set down fresh communities planned on a human scale, and, above all, restore a little happiness and freedom in places where these things have been pretty well wrung out. This is a question that cuts diametrically across a large part of our current political and social problems; some of these it places in a new light, and some of them it makes meaningless. Regionalism or super-congestion? Will man in America learn the art of mastering and ordering his environment, to promote his own fuller purposes, or will he be mastered by his environment, and presently, as in Samuel Butler's picture in Erewhon, or in Zamiatin's We, find himself without any purposes other than those of the Machine?

The New Exploration

Charting the Industrial Wilderness

By BENTON MACKAYE

Can we create a region? Can we devise a plan? Rather we must discover the region, and find the plan. Mr. MacKaye, following back to its ultimate sources that flood which beats against the stone and steel of cities, comes to the very fountainhead of regional planning

"THE last great earth story has been told." So spoke Peary upon his return from the discovery of the north pole. Amundsen and Scott soon thereafter checked on the location of the south pole. These expeditions, taken together, to the uttermost ends of the globe formed indeed the last great earth story; they closed the drama of our planets' unfolding which began with Marco Polo and Christopher Columbus. Man has conquered the wilderness and carried forth his civilization. But in dispelling one wilderness he has created another. For the intricate equipment of civilization is in itself a wilderness. He has unravelled the labyrinth of river and coast line but has spun the labyrinth of industry. And the untangling of this iron web is the problem of our time.

The story of this interchange of wilderness is the story of men's wanderings over the surface of the globe and we shall do well to begin our study of the new exploration at the four corners of the earth, though we shall find it coming to focus, too, in a little Berkshire valley. J. F. Horrabin, in his excellent little book on Economic Geography cites four main chapters in men's wanderings.

1. The river valley chapter, in which civilization (in the sense of a "settled life in a particular area") made its beginnings: Egypt, "gift of the Nile"; Mesopotamia "between the rivers"; the valleys of the Indus and the Hwang-ho.

2. The Mediterranean chapter, thirty-five centuries long. Men ventured on the water. But only gingerly. They sailed the inland sea but not the open ocean.

3. The unfolding of the world's coast lines, begun by da Gama, Columbus and Magellan. This took about three centuries, when European civilization (outside of Europe herself) was limited to a series of seaboard settlements connected by ocean routes.

4. The unravelling of the rivers and valleys within the continents—in Siberia, Africa, Argentine and in our own Far West: the chapter of the covered wagon and the "iron horse."

The "march of empire," then, has taken place in more directions than toward the setting sun: it has fronted every point upon the compass. But it has followed a definite purpose. The effort of the empire builder consciously or unconsciously is to develop a self-sustaining unit of civilization—and of industry. With the modern statesman this is a deliberate aim: as far as possible to be independent of the other Powers. Empire as here used is physical and not political; it refers to physical and geographic movements and implies no brief for imperialism. It is through the upbuilding (and downfalls) of physical empires that nature's wilderness has dwindled and the wilderness of industry has spread. If we would unravel the incognito of industry, as our forefathers unravelled the incognito of coast and continent, we must look into this matter of empire building —and empire charting.

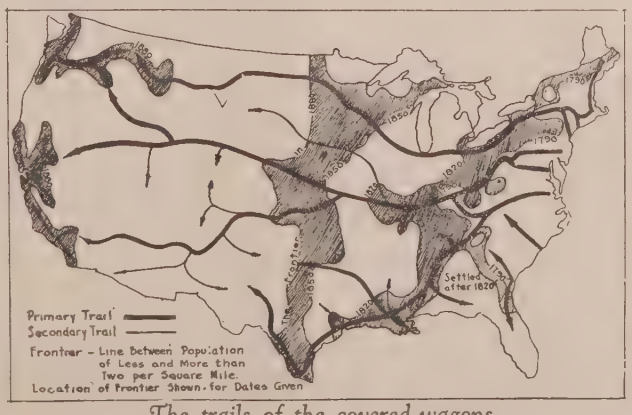
There is a "physiology" of industrial empire. For empire is something more than territory. It is a working thing; it is a rough hewn organism—a system. Its "physiology," in certain ways, resembles that of a river system. It is a flow from source to mouth.

Take Britain: it's "sources" lie in India, in Africa, in Sumatra, in Australia—the lands around the Indian Ocean (and elsewhere). These lands contain *raw materials* wheat, beef, cotton, wool, lumber. These, in large part, "flow" to England. They flow first across the Indian Ocean in various converging tributary routes to the Gulf of Aden; thence they flow in one main stream, through Suez and Gibraltar, to the "mouth" (which is Great Britain).

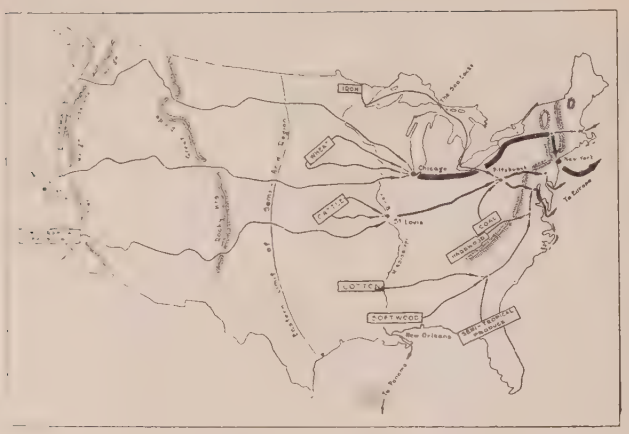
But this is only half the picture. England consumes, but she also produces. She is source as well as mouth. She has iron and coal. With these she converts raw material into *finished products*. And these flow back again (through Gibraltar and Suez and Aden) to the lands of the Indian Ocean. So these lands are "mouths" as well as sources.

Here is empire in a nutshell: (1) the *sources* of raw material; (2) the "mouths" or *markets* for finished products; (3) the *routes* to the home country whereby the latter controls the "flow."

Empire is industry: it is a flow from many sources to many mouths through a controlling port. Not all the flow, of course, is through such a port. Per-


Primary Trail
Secondary Trail
Frontier - Line between Population of Less and More than Two per Square Mile.
Location of Frontier Shown for Dates Given
Settled after 1820

The trails of the covered wagons



Salient lines of industrial flow

haps only a small part of it. But it is controlled therefrom. The home port is the head; it is the integrator.

Empire is integration. It is a groping, unconscious effort to get world order out of world chaos. But it brings its own chaos. For there is more than one empire. And their lines of flow get crossed. That is what happened in 1904 at Port Arthur; and ten years later at Constantinople and Bagdad. Empires are integrators. But they must be further integrated. Industrial flow must be integrated. And first it must be charted and that on a world-wide scale.

But let us take one continent at a time. Let us focus on America.

THE biggest year in America's history is 1776. It marked the birthday of her independence, and also of her expansion. For it was in '76 that Daniel Boone crossed the Appalachian Mountains. Till then America had been a remote seaside adjunct (politically and industrially) of a growing, world-wide, maritime Power. After that year she became a separate continental Power—in time to become the first big "railway empire." Siberia, Africa and Argentine came later.

But she did not wait for the railway. For horses and oxen started Westward Ho a generation ahead of the locomotive. The trails of the covered wagons followed those lines of least resistance destined to become our present lines of industrial flow. The Santa Fé Trail became the Santa Fé Railway. The Oregon Trail became the Union Pacific. The wagons, followed by the engines, dispelled the wilderness of nature and set up the wilderness of industry.

The territory of the United States forms a world industrial unit which is almost self-sufficient. It contains the sources of food, clothing, fuel, buildings and furnishings. Wheat, cattle and cotton come from the interior prairies, iron from the Mesaba Range and coal from the Allegheny Plateau, softwood comes from the Gulf region and the Pacific Coast and hardwood from the Appalachians. Semi-tropical produce comes from Florida and from southern California.

These *raw materials,* in a general way, "flow" eastward through Chicago and St. Louis and the Soo Locks, to the "mouths" of Pittsburgh and New York. Here and in other big power centers they are turned into *finished products.* Then (as in Liverpool and Manchester) the "mouths" turn "sources." The flow begins anew. The finished products (foods, textiles, furnishings) flow part of them to Europe and elsewhere abroad; the rest flow back westward to the sources now turned "mouths."

This "flow" takes place by rail, not water. Roughly speaking, it is east and west, not north and south. In time this may be modified. For the Mississippi Valley has two natural outlets by water to the open sea. One is through the Lakes and the St. Lawrence. This (like Russia's outlet through the Baltic) is a somewhat ice-bound way. The other is down the Mississippi River to the Gulf. This is a Pacific route as well as an Atlantic one. For New Orleans via Panama is about as near to Valparaiso and Vancouver as she is to Liverpool. It was this interior waterway empire, even now awaiting development, which was the dream of La Salle for France.

SO much for a general picture of the world and of America. So much for the lines of flow across one continent and between some others. Are these lines as direct as they might be? Do they converge at the best located ports? Should there be more ports to handle the flow? Are there cross flows and duplicated routes? Are the sources themselves—of foods, textiles, and furnishings—developed within each region in sufficient variety? Could the manufacturing centers be better placed? These are a few questions which need answering about our modern web of industry.

Beneath this surface web, as it stands now, there lies another framework: this a potential one. This is the *most efficient framework* that geographic factors will allow. It is the framework that would enable the smoothest possible "flow" from the sources to the mouths; the framework which would achieve this flow with the minimum ton-mileage (and with minimum labor effort). The problem of finding and locating this "most efficient framework" is an extension of the problem of the civil engineer: the problem of relocating a railroad line between points A and B. Between these points there is a *most efficient route*—as to distance, grades, curves and general serviceability. The engineer's job is to find that route. Perhaps he never does it. But probably he finds the nearest to it that any man can find.

The job is *not to make* the most efficient route. It is already made—by nature. It lies there, a hidden potentiality. The job is to *discover* it. To do this the engineer must search for it: he must explore. His first job, then, is not construction but exploration.

And this is the job we have with regard to the *most efficient framework* for achieving industrial flow. Our job is *not to make* the framework. It is already made—by nature; and lies before us, a hidden potentiality. Our job is to *discover* it. This is something we, very likely, can never do. But by knowing what it is that we are after we can find the thing that comes the nearest. To do this we must explore. And this—the discovery of the most efficient framework for guiding industrial flow—is the job of the new exploration.

WHAT clues have we for making our discovery? Where shall we commence in our process of unravelling the present tangled web of steel? Let us look at a sample of it. Let us take a cross-section of New England from mountain crest to ocean port: from the Berkshires to Boston harbor, along the Hoosac Tunnel Route of the Boston and Maine Railroad.

Three types of topography occur in this cross-section:

The Appalachian Barrier, illustrated by the Berkshire-Green Mountain Range of western Massachusetts and Vermont. The Hoosac Tunnel penetrates this range near North Adams, Mass.

The Threshold Plain, illustrated by the New England Plateau which covers three quarters of the total area. (This plateau is crossed by the alluvial plain of the Connecticut River).

The Seaboard, illustrated by the Boston Basin, a flat low area bordering the harbor and occupied by the cities which form Greater Boston.

Each of these three types of topography is occupied by a somewhat distinct type of industrial web. The Appalachian barrier is mainly a "source region," chiefly of water power and of forest growth. Crop soils are limited to the narrow valley bottoms but many of the slopes afford pasture for cattle. This region, in New England, is the major source of water power and of hardwood lumber: and an incidental source of milk supply. The industrial web here occurs in its simplest form, consisting chiefly of power equipment, of logging equipment and of small plants.

The seaboard, on the other hand, is by and large a "mouth region." The industrial web here occurs in its most complex form. It consists practically of every type of manufacturing plant, of elevators and storage plants, of stores, office buildings, wharfs, railway yards, and the thousand and one combinations of industrial structures. To these are added transit lines and motor vehicles for the diurnal movement of office workers to and from the suburbs.

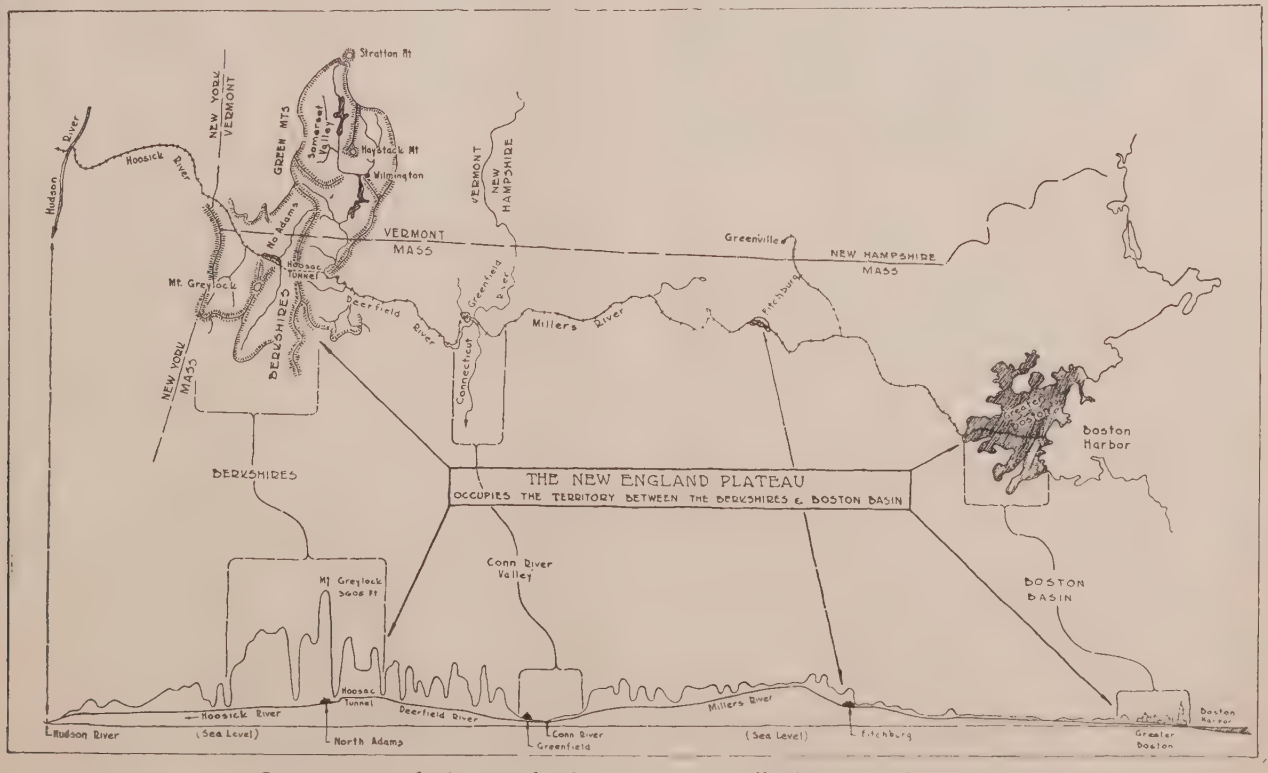
The seaboard is only one instance of the metropolitan regional type. This type is, of course, scattered throughout the country, occurring in all sizes from cities like Greater New York and Chicago, occupying whole counties, to the little "one-horse" factory town, occupying a few blocks. We have referred to such territory as the "mouth region." This it is for raw material; for finished products it becomes a "source region." The cities and towns shown on the map along the B. & M. Railroad (Fitchburg, Greenfield, North Adams) may be classed, therefore, as "Lesser Bostons." The city, whether large or small, presents the industrial web in its most complex form: it is the knottiest, thickest part of the industrial jungle.

Between these extreme types—of city and mountain range—lies the plain and plateau region which forms the bulk of the country's area (represented in our map by the New England Plateau). This is a farming region—the source in New England of milk and apples and fuelwood. It is a country of fields and woodlots. The industrial web is more simple than in the Seaboard, but more complex than in the Appalachians: it consists chiefly of barns and farming equipment, of creameries and various factories, and the roads to connect them with the nearby cities.

In which of these "geo-economic" types can we best begin our exploration—the search for that hidden potential framework which is our goal? Shall we begin in Boston or the Berkshires?

Where did our forefathers begin—the pioneers of the *old* exploration? They began in Boston. And for good reason. The wilderness in Boston was less intricate than that in the hills that came to be called Berkshire. Our forefathers, following the lines of evolution, moved from the simple to the complex. They moved from Boston toward the Berkshires.

Where should we begin—we of the *new* exploration—in Boston or in Berkshire? If we too would follow evolution we shall emulate our forefathers: move from simple to complex. But these have reversed their positions on the map. "The simple" has moved to Berkshire, and "the



Cross-section of New England: a part of the "Atlantic Border Empire"

complex" to Boston. For in Berkshire the industrial web lies thinnest; here at the "source" industry greets nature; here industry begins; here it fastens in Mother Earth those initial strands along which the "flow" gets started. But in Boston the web lies thickest; there at the "mouth" industry greets man; there industry rests; there it links with the ultimate consumer those myriad final strands through which the "flow" ends. And so we shall begin in Berkshire, not in Boston.

Indeed Berkshire represents one sphere and Boston quite another. Berkshire represents what may be called the "sphere of origin"; Boston, the "sphere of distribution." A vital difference! The lines of industrial flow within the sphere of origin can be definitely segregated; but within the sphere of distribution they must be integrated. The source region is a "one industry" region (or a "few industries" region), while the mouth region is a region of many (or all) industries. Converting a tree into boards in the Berkshire forest can be planned all by itself; but delivering a wooden chair in Boston concerns the whole lumber industry: even more—it concerns iron and steel, and the whole cosmos of manufacture and distribution.

Some day, of course, we shall have to enter Boston. But on the same day we shall have to enter New York and Chicago and San Francisco (and perhaps even Liverpool and Hong Kong). For these are all in the sphere of distribution. They are nerve centers of a continuous flow which is continental (inter-continental) in its vastness.

"But," you say, "if the source region forms one end of the industrial thread and the mouth region forms the other, why not begin both in Boston and Berkshire and work both ends against the middle?"

A good idea. Let us by all means have our city planning. But let us not forget its roots in its vast hinterland. Let us understand that traffic congestion on State Street and subway congestion at "Park Street Under" are resultants of activities taking place in Dakota and Texas, in New York and Charleston, as well as in Somerville. It is a fairly simple matter to widen streets and build new subways; and this sort of emergency ditchwork may seem very necessary when the flood has come upon us. But it is not going to the roots.

WHEN Pittsburgh began at last to tackle manfashion the floods of the Allegheny and Monongahela Rivers, what was done? An urgent part of the city plan was for the disposal of these surplus waters. And the Pittsburgh Flood Commission went about it. They went *away* from Pittsburgh. They traced the waters to their sources. And this part of the Pittsburgh "city plan" included river drainage basins stretching over goodly portions of four states. At least seventeen reservoirs, scattered for hundreds of miles around, were found necessary to control the floods at Pittsburgh. The city itself was but one tiny spot on the map of this "city plan."

And as with the flow of waters so with the "flow" of other things. So with the flow of population, depending as it does upon the flow of industrial products. The *industrial flow* out of the Mississippi Basin through the North Atlantic ports is more terrific than the *water flow* which passes through the Mississippi Delta. The most terrific "gorge" is New York harbor: for here about one fifth of America's foreign tonnage squeezes through. New York is the biggest "Niagara." But Boston and Philadelphia and Baltimore are only lesser ones. Can this flow from our continent's interior be "shedded" wth greater engineering skill?

And how about our "pools" of manufacture? Why should these congest in the metropolis? Are not the main line cities (Fitchburg or North Adams) as good for much of this as Boston? And (for some things) are not the branch line towns (Greenville, N. H. or Wilmington, Vt.) as good as Fitchburg or North Adams? And why not pool our factories even further back than this—back nearer to the sources? Coal and iron can get together anywhere east of the Mississippi. There is the Mesaba Range in the north and Birmingham, Alabama in the south. Electric power, direct by wire, from coal field or waterfall, can reach almost any portion of this territory. The hardwoods of the Carolina Highland and the (future) softwoods of the Lake States and the Gulf, are (or will be) near at hand. And all around grow the cotton and the corn, and the sheep and cattle, to clothe and feed us.

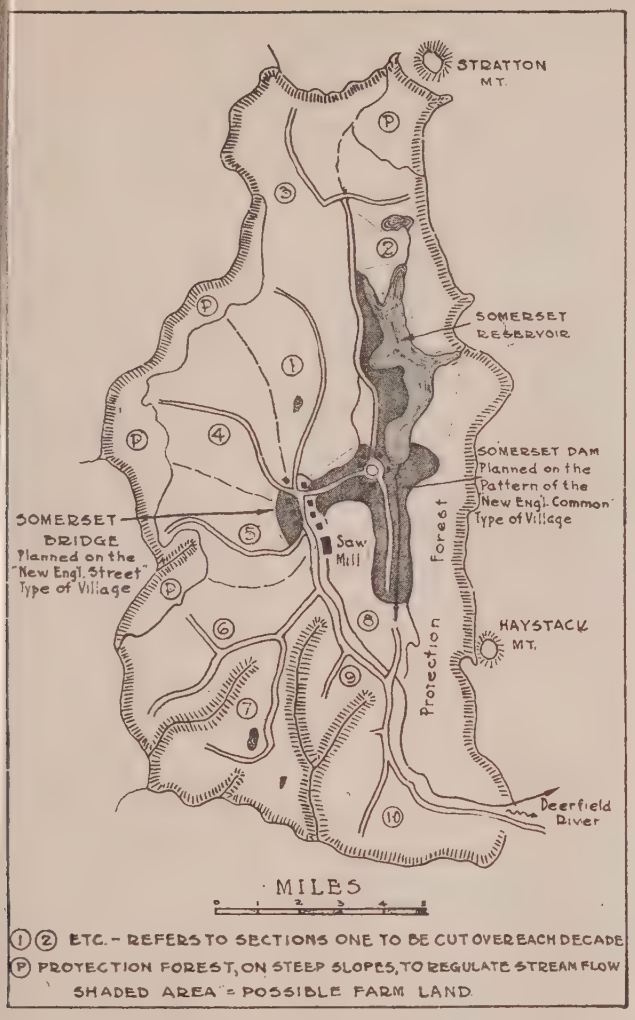
When Boston (and the others) make their real city plans as part of an industrial watershed, they will look beyond their ditchwork (their street widenings and subways) and do as Pittsburgh did with her flood waters. They will study the streams and springs that cause the flood. They will seek to control from the *source outward,* not from the *mouth backward.*

AND now let us start our exploration: not in Boston but in Berkshire. We shall explore a sample region in the "sphere of origin." We shall take the basin of the Upper Deerfield River, the territory drained by this river and its tributaries above the big bend at Hoosac Tunnel, Massachusetts. Part of this territory is in Berkshire county, Massachusetts, and part within the state of Vermont. It consists of a series of mountain valleys along the main crestline of the Berkshire-Green Mountain Range. On one of these we shall focus our chief attention, namely Somerset Valley, at the extreme headwaters north of Wilmington, Vermont.

Somerset Valley is a miniature empire. It is 17 miles long, from four to eight miles wide, and covers 49,000 acres. It is a typical crestline valley, an almost perfect illustration of the "sphere of origin." It is shut off from the outer world by three of the largest mountains in this part of the range—Glastonbury on the west, Stratton on the north and Haystack on the east. Its outlet is at the southeast corner just above the town of Wilmington.

This little region has its own history; and it shows a definite rise and fall of "settled life." Daniel Rice, the first settler, entered the valley the same year (1776) that Daniel Boone crossed the Southern Appalachians. He and his followers, emulating the Egyptians, made their settlement in a fertile river bottom (now occupied by the Somerset Reservoir). Here, in 1780, Rice built the first sawmill and gristmill. The next community building was a church—built five years later out of logs. Settled life at Big Meadows as they called the community lasted about one hundred years, beginning with Daniel Rice in 1776 and ending with one last reported family in 1882.

The history of this century in Somerset Valley is the history of the rise and fall of a certain phase of the lumber industry, the phase of the ox team and the log drive. The one main export of the Somerset empire was lumber. Little


STRATTON MT.
SOMERSET RESERVOIR
SOMERSET DAM Planned on the Pattern of the New Engl. Common Type of Village
SOMERSET BRIDGE Planned on the "New Engl. Street" Type of Village
Saw Mill
Forest Protection
HAYSTACK MT.
Deerfield River
MILES
1 2 3 4 5
① ② ETC. - REFERS TO SECTIONS ONE TO BE CUT OVER EACH DECADE
(P) PROTECTION FOREST, ON STEEP SLOPES, TO REGULATE STREAM FLOW
SHADED AREA = POSSIBLE FARM LAND

A forest plan for Somerset valley, upper Deerfield River

sawmills (run by water power) were set up (and abandoned) from time to time along the main stream. In addition, one wood-working plant at least was built—a clothes-pin factory in 1846. Big Meadows and vicinity was apparently the center of the valley's life till the middle of the century, the population rising from 111 in 1790 to 321 in 1850. Thereafter the center seems to have shifted downstream to the settlement at Searsburg. But at this time life in the valley as a whole began its decline: history reports the abandonment of sawmills rather than the building of them; and the combined population of both settlements dropped from 340 in 1860 to 169 in 1910.

In 1907 the "old empire" was supplanted by a new one: the coming of the logging railroad. A new phase of lumbering entered the valley—the railroad phase. But its very power made it short lived. The valley was planted with temporary logging camps and the logs hauled by rail to the big mills at Wilmington and further down the river. Before 1920 the remaining larger timber growth thus was taken out and the tracks pulled up after the last trainload had gone its way. And so the "second empire" ran its course and settled life in Somerset Valley now awaits its restoration.

This story is the story of the average wooded crestline valley in the eastern states. It is the history of one particular initial strand of industry, namely, lumbering. This industry, as in Somerset Valley, has spread its web and picked it up again. Our own problem, therefore, is rendered all the simpler. The "framework" we are looking for is not so deeply buried. We can build on a fairly clean slate. Indeed the very "ruins" of the web make firm foundations for our framework. The old railroad grades in Somerset would make excellent roads for reaching the various portions of the valley's future forest. Some of the old logging camps could be turned into logging communities. It happens in Somerset Valley that no great devastation has been made. Hence a regulated forest growth could readily get started.

As a sample, therefore, of our new exploration—of the charting of one particular strand of the hidden framework which we seek—a rough hewn plan has been drawn for guiding the potential outflow, year by year, of one of the raw materials which Somerset Valley can supply; namely lumber. The gist of this plan is presented graphically— in the accompanying map.

The forest plan here presented is for that portion of the Upper Deerfield basin just described—Somerset Valley. It requires the adoption of what is known as "forestry." Forestry would develop the maximum potential wood growth of an area, just as the water power industry would develop the maximum potential horsepower from an area. The yearly cut is then limited to the yearly growth. Forestry, that is, cuts each year the annual forest "interest" in lieu of shoveling out, all at once, the forest capital. It is *forest culture* as against *forest mining.*

Forestry is all that will keep settled life in Somerset Valley in a truly settled state. For any community to be permanent must rest on a permanent industry. So long as the forest industry is run on a "mining" basis it can support only a "camp" population; it must become a forest culture if it is going to support a settled life.

It takes from 50 to 150 years for a timber tree to grow to financial maturity. This fact necessitates waiting for more than a human lifetime to realize on the money investment. This in turn requires some form of long-time ownership and a consistent long-time policy. Hence some public institution is the logical (and the practical) owner —such as state, federal or municipal government. The present plan presupposes such form of ownership.

Our goal in this plan is to discover and chart the "most efficient framework" for regulating the outflow of lumber from Somerset Valley.

This framework (as nearly as we see it) is here mapped. It consists of a system of roads and of periodic cuttings converging on a central sawmill plant and wood-working community. (The community, as planned, is divided into two parts, one near the mill and the other near Somerset Reservoir.)

The plan as presented is merely a sketch plan. It is for purposes of illustration only, and so to keep it clear the sketch has purposely been made very crude and rigid. For actual working it would have to be modified.

Another important "raw material" to be supplied from the sphere of origin is water power. And as one more illustration of a potential framework for guiding the outflow of a resource from a region (*Continued on page* 192)

Seeing a State Whole

By ALFRED E. SMITH
Governor of the State of New York

WE are too much given to thinking of the map of New York as final. We have only to look back over the growth of the state during the past century to see how the effort of man has remodelled this great empire of ours. This is a very different state from what the original settlers found. It is a different state from what it was before the days of the railroad. It is going to be quite a different state in the future.

We cannot ever again afford to permit the future growth of the state to be accidental. It must be planned to serve the interests of every man, woman and child and to give opportunity for a fuller and finer life, and not for the benefit of privileged groups. The planning of communities and the planning of the state is probably the greatest undertaking we have before us.

There is a direct relationship between the development of the natural resources of the state and the relief of the congested areas of its big cities. In the big cities, New York in particular, the value of land and the comparatively high rent of the most meager space make comfortable homes beyond the reach of great numbers, except in unusual undertakings such as those of limited dividend corporations like the City Housing Corporation. Up to now we have been trying simply to prevent the overcrowding of certain districts, but something more fundamental than restrictive legislation is necessary. If we can offer better living conditions and the opportunity for earning a livelihood in parts of the state more remote from the great cities we will undoubtedly find many in whom the herd instinct has been somewhat overcome by the difficulties of tenement living and who will take advantage of them. Since I submitted the Housing Report of the Reconstruction Commission to the New York Legislature of 1920 a constructive policy has gradually taken shape. When in 1923 the legislature empowered me to appoint a commission to deal with housing problems, it was inaugurated not merely as a Housing Commission, but as a Housing and Regional Planning Commission.

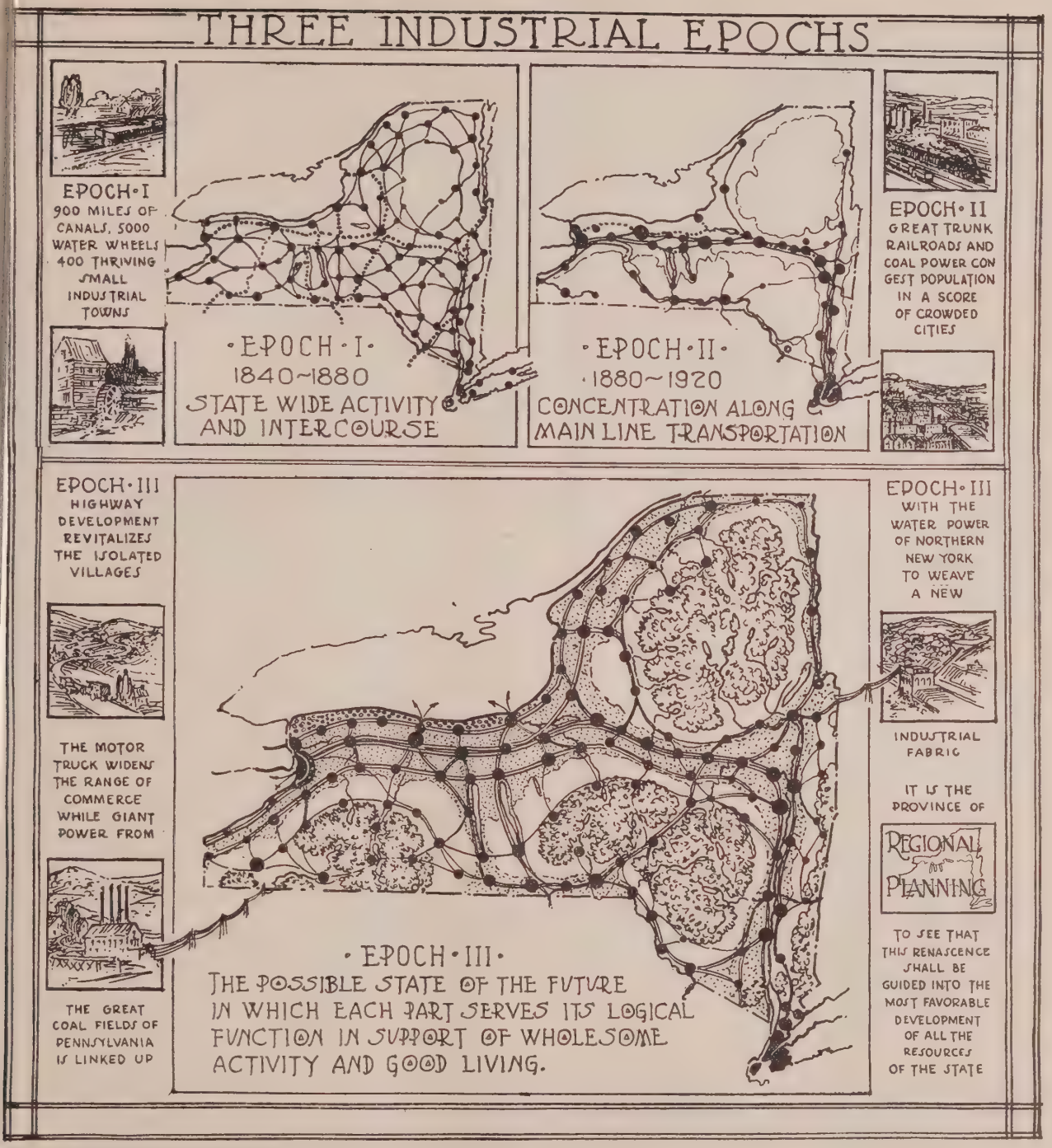
During the past year this commission has devoted some time to preliminary studies for the first comprehensive regional survey of the entire state. In time it can aid in the redistribution of the population of the state for the greater comfort and usefulness of vast numbers of people, if plans are made on a state-wide basis.

Up to the present, instead of cultivating the centers that lacked the preeminent trade advantages of New York and Buffalo we have neglected them. Of more than five hundred small cities and incorporated villages in New York state, not one in seven has grown appreciably during the past twenty years, and a great many have fallen back. But there is one small town of five hundred people not seventy miles from Buffalo, in which manufactures were at a standstill ten years ago, which the State Highway Commission recently joined to the outside world by a splendid road. Shortly thereafter an electric industry planted itself in the neighborhood to make use of the power that flows through its river. Instead of having to put this new industry in a congested center, it was possible through the automobile and electric power to revitalize a town that had suffered for lack of work and for want of connection with other communities. With this came sufficient energy and resources to build houses; and to broaden the scope of the work undertaken so as to insure more fully the happiness and well-being of the people concerned. In this lie the germs of a policy of regional planning.

Our agricultural districts are an example of the beginnings the state has already made in regional planning. Agricultural experts have showed the farmers in some districts where they were attempting to get a living from mixed crops on land that could only grow grass, how they could save themselves by dairying; and where this was not practicable they helped the farmer who had only a hopeless life of penury ahead of him to get hold of more favorable land, or to take up a different line of work. What intelligence has done to improve the lot of these farmers, intelligence can do for other industries and for other workers.

PERHAPS the greatest opportunity for state action lies in its enormous store of water power. Some of this power, especially on the smaller streams of the headwaters of the Susquehanna and Delaware Rivers once drove the sawmills, later the grain and pulp mills, which in turn gave life to healthy villages. Today this power is running idly over the old dams. In the hasty, blind industrial development of the state, these places have been cut off from the world, and everything has drifted to the centers where markets and coal were available. Hydro-electric power will take the place of coal when we can agree upon an honest and equitable use of it that will aid industry and also preserve the rights of the state in its ownership.

The Housing and Regional Planning Commission is studying the situation with the hope of assisting industries to suitable locations and of creating new opportunities for the making of real homes in all-around communities, with play, work and education open to everyone. A great campaign of education and publicity is needed so that each citizen and every industrial organization may realize the value of these opportunities. When the inhabitants of a congested area, or men in need of work, or the industry in need of new fields have learned to view the problem in its broader aspects and have seen the relationship between the newer facilities for transportation and natural resources, we may look forward to an intelligent solution of state and city planning problems through the best development of each.

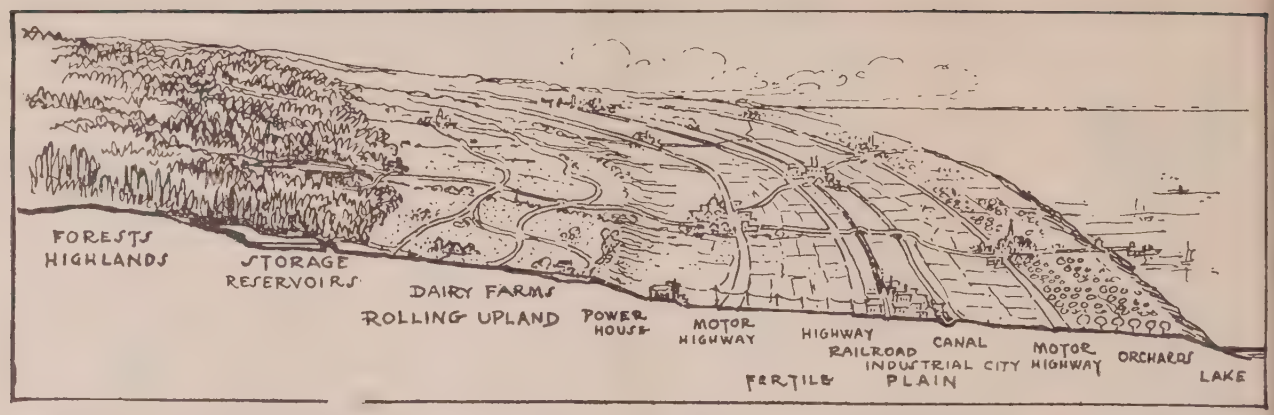

THREE INDUSTRIAL EPOCHS
EPOCH·I
900 MILES OF CANALS, 5000 WATER WHEELS 400 THRIVING SMALL INDUSTRIAL TOWNS
·EPOCH·I·
1840~1880
STATE WIDE ACTIVITY AND INTERCOURSE
·EPOCH·II·
·1880~1920
CONCENTRATION ALONG MAIN LINE TRANSPORTATION
EPOCH·II
GREAT TRUNK RAILROADS AND COAL POWER CONGEST POPULATION IN A SCORE OF CROWDED CITIES
EPOCH·III
HIGHWAY DEVELOPMENT REVITALIZES THE ISOLATED VILLAGES
THE MOTOR TRUCK WIDENS THE RANGE OF COMMERCE WHILE GIANT POWER FROM
THE GREAT COAL FIELDS OF PENNSYLVANIA IS LINKED UP
·EPOCH·III·
THE POSSIBLE STATE OF THE FUTURE IN WHICH EACH PART SERVES ITS LOGICAL FUNCTION IN SUPPORT OF WHOLESOME ACTIVITY AND GOOD LIVING.
EPOCH·III
WITH THE WATER POWER OF NORTHERN NEW YORK TO WEAVE A NEW
INDUSTRIAL FABRIC
IT IS THE PROVINCE OF
REGIONAL PLANNING
TO SEE THAT THIS RENASCENCE SHALL BE GUIDED INTO THE MOST FAVORABLE DEVELOPMENT OF ALL THE RESOURCES OF THE STATE

Maps and charts prepared by Henry Wright for New York Commission of Housing and Regional Planning

THE first report on regional planning for New York state, to be issued shortly by the Commission of Housing and Regional Planning, traces the industrial history of the state, which has passed through two significant cycles and is believed to be approaching a third.

Before 1850 the activities of the state are represented chiefly in some four hundred small thriving industrial towns, scattered throughout the state and served by a very complete system of canal transportation. Five thousand water wheels and twice as many industrial plants dotted the whole map, and as late as 1870 the water power in use was more than twice that of power developed from coal and steam.

The second period followed the building of the first great trunk-line railroads which bridged the gap between the lakes and the port of New York. As the railroads developed, New York, forming the most favorable highway from the West, turned its attention largely to this business which naturally accompanied the industries along the main lines of transportation. Lateral transportation was ignored and the lateral canals were even abandoned about 1875. Thus the state lost its volume of intercourse between towns off the main line, and as industry changed to a coal-driven basis, it was naturally confined to those areas which were served by the best transportation along the main east and west highways. The industry of the small town disappeared and its people necessarily drifted to the main line cities. Thus, in the seventy years



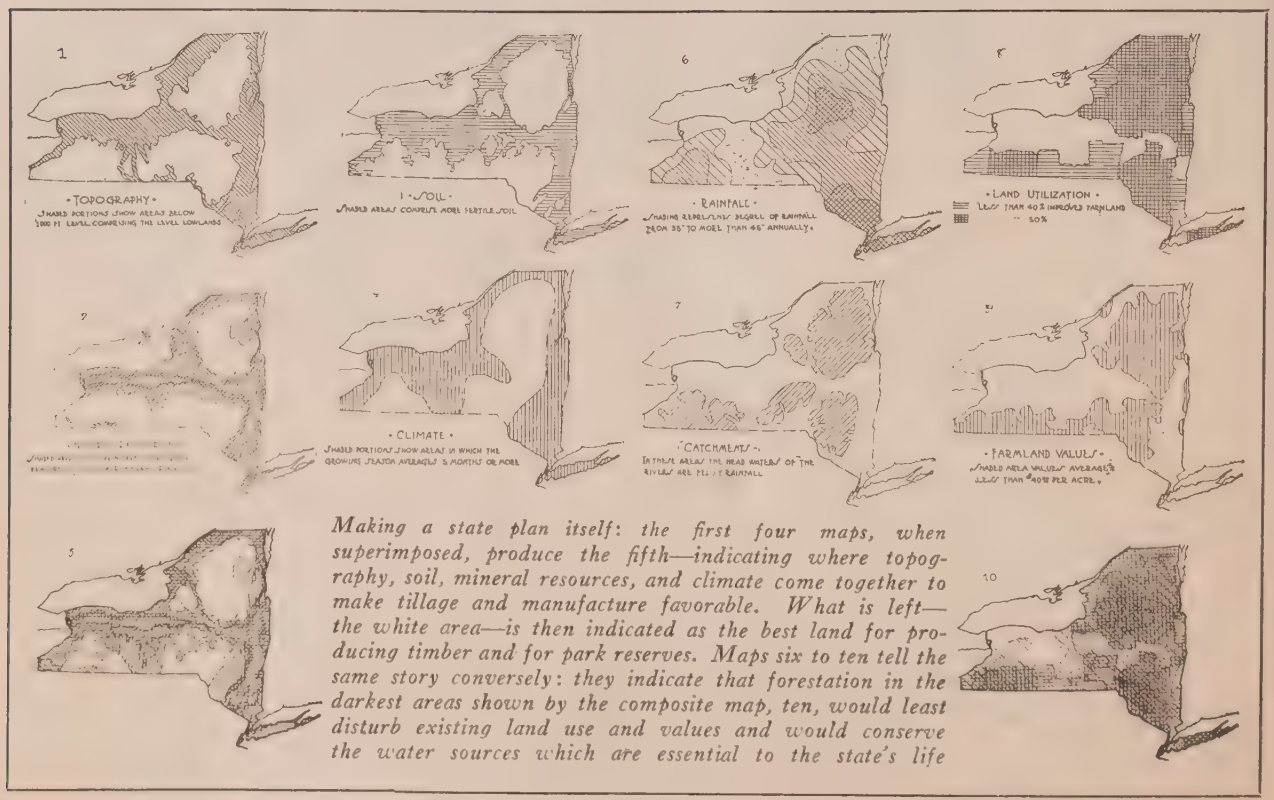
An "ideal section" based on a line drawn through Orleans and Genesee counties, but indicating sound regional development along most of New York state's northern frontier

from 1850 to 1920 New York state as a whole was practically stagnant in growth, the rural population shifting into the nearer large centers and from these into ten main cities which by 1920 had each reached 50,000 inhabitants. The growth of the state slowed down more and more; by 1910 there began to be a net loss in the total population outside these few favored cities.

The report assumes that the state will not—nor need it—again reach a condition of general scattered (or state-wide) development comparable with the first industrial period. However, the shift back to the small city is already apparent; and there are certain limited though large favored areas which will best support both agricultural and industrial pursuits, while the remaining upland areas form a hinterland for reforestation, water supply and recreation.

The Commission looks forward to the more intelligent and more general use of areas favorable for agriculture and industry, since the motor truck and highway are releasing industry from the main lines of railroad transportation. It suggests that the entire Erie and Ontario watershed forms an ideal section for complete industrial life, starting with the lake front and the fertile areas in the temperate climate favorable to fruit growing. The agricultural plain, bounded by the small towns and flanked by two lines of trucking highways, surrounds and connects the manufacturing centers which are threaded along the combined railroad, highway and canal lines in the center of the plain. This is bounded by the next area of upland farms devoted to dairying and feed crops; and finally in the highlands beyond are forest reservations and storage basins which serve for water supply and power to the industrial plain. This will restore the greatest natural resource of the state—namely its forests.

The state thus becomes a series of complete living sections suitable for the ideal development of the new industrial epoch. It becomes the part of regional planning to direct this evolution into the fullest outlet for life.


1
• TOPOGRAPHY •
SHADED PORTIONS SHOW AREAS BELOW 1000 FT. LEVEL COMPRISING THE LEVEL LOWLANDS
• SOIL •
SHADED AREAS COMPRISE MORE FERTILE SOIL
6
• RAINFALL •
SHADING REPRESENTS BELT OF RAINFALL FROM 35" TO MORE THAN 45" ANNUALLY.
• LAND UTILIZATION •
LESS THAN 40% IMPROVED FARMLAND
" 50%
9
• CLIMATE •
SHADED PORTIONS SHOW AREAS IN WHICH THE GROWING SEASON AVERAGES 5 MONTHS OR MORE
7
• CATCHMENTS •
IN THESE AREAS THE HEAD WATERS OF THE RIVERS ARE FED BY RAINFALL
8
• FARMLAND VALUES •
SHADED AREA VALUES AVERAGE LESS THAN $40 PER ACRE.
5
10

Making a state plan itself: the first four maps, when superimposed, produce the fifth—indicating where topography, soil, mineral resources, and climate come together to make tillage and manufacture favorable. What is left—the white area—is then indicated as the best land for producing timber and for park reserves. Maps six to ten tell the same story conversely: they indicate that forestation in the darkest areas shown by the composite map, ten, would least disturb existing land use and values and would conserve the water sources which are essential to the state's life

Giant Power—Region-Builder

By ROBERT W. BRUÈRE

Giant power is already forging the framework on which regions may be built —a framework which buttresses the farmer on his land, links shop with soil, and makes the balanced community a vigorous reality. In Pennsylvania the Giant Power Survey Board, in its report just published, provides region builders with estimates and working specifications for their creative task

REGIONAL planning has come into being under pressure from our swollen, congested and unmanageable commercial cities. But it is only secondarily a metropolitan problem. Primarily it is a problem of staying the decline and re-invigorating the life of rural and small-town communities. It assumes that the alternative commonly expressed by the question, *Do you prefer to live in the city or the country?* is a false alternative; that healthy, vigorous, life-loving men, women and children want an environment in which they can enjoy the good things of both.

In spite of the rapid shifting of population from the farms to the cities, the United States is still an agricultural nation, and must continue to be if we are to maintain our domestic prosperity and our economic preeminence in the world. Fortunately what we confront is not an ethical imperative only; traditionally we are a land-loving people. The magnet which drew our adventurous millions from their European homes was land and the opportunities and freedoms implicit in it. We tend to forget the intensity of that land hunger as decades intervene between us and the era of free soil, and as census by decennial census, we watch the balance of population shift from the farms to the towns. But we confound symptom with cause. When only a little more than twenty-five years ago Oklahoma was thrown open to settlement, thousands and tens of thousands joined in the greediest "sooner" rush in our history. And that was before oil had been discovered there. Many went simply to get something for nothing; but many to strike root in the earth. If another Indian territory were available that spectacle would be repeated at the crack of the land agent's pistol. Our people would not by the millions be abandoning farms if they could overcome the hard isolation of American farm life and if tillage could be made economically profitable. In the last analysis, regional planning and the decentralization of population depend upon the stabilization and increasing prosperity of agriculture; and that depends in turn not only upon more abundant and cheaper fertilizers, but also upon the extension of modern mechanical equipment and energies to small-town and rural homes. Giant electrical power, if wisely controlled, can be made to yield both.

A year ago, in the Giant Power number of The Survey (March, 1924), I said that through the development of the electrical industry mechanical engineers were beginning to rebuild the technical and social framework of American life. Some readers were disposed at that time to see more romance than fact in the statement, but the intervening months have brought public confirmation of the data upon which it was based. One after another of the electric utility corporations has announced mergers preliminary to the construction of giant power lines from the coal mines in Pennsylvania and West Virginia to the Lakes and the Atlantic seaboard. The debates over Muscle Shoals in Congress have made every wide-awake layman aware of the prospective gathering of the energy resources of the country into a few pools of power upon which the future of industry, transportation and community life will increasingly depend. There is no longer any doubt as to the reality of the technical revolution which the mechanical engineers are unobtrusively setting in motion.

At the same time I deplored the fact that the human engineers—social workers and educators, health, civic and labor leaders—seemed hardly aware that a new industrial revolution was on; that they were facing the progress of electrical invention almost as naively as the philanthropists of the eighteenth century faced the revolutionary progress of steam. The possibility remains that unless men and women of vision bestir themselves to forestall such a tragedy, the social history of the dawning electrical age may repeat that of the Industrial Revolution.

The report issued this spring by the Pennsylvania Giant Power Commission, and this regional planning number itself, may be regarded as two of the first concerted attempts by groups of social engineers to apply forethought and planning to this fundamental technological change, in ways which may help to avert its preventable evils and guide its tremendous forces into socially beneficent channels.

It is inevitable that such trail blazing work should have the tentative quality of all pioneering. But in view of the untoward symptoms that have already attended large scale electrical development, it has a most timely importance. Home-work, that stepmother of the sweat shop, is again on the increase in our great cities. The socially unimaginative exploitation of water power in parts of the South is building up new cotton mill towns on the motor-geared labor of women and children. The extension of cheap electricity from central stations to the coal mines of West Virginia and southwestern Pennsylvania is intensifying the struggle between the workers and operators by bringing a powerful ally to the operators in the non-union fields. While the general leveling up of standards of health and decency is having its protective effect, the new technical revolution tends in its social aspects to follow the familiar lines of the old. That this should be so is largely the fault of social workers and human engineers, public officers and civic leaders in

Through the work of its Hydro-Electric Power Commission in spreading out giant power lines from Niagara, Ontario has acquired the essential elements of a Region, as that term is used in this issue of The Survey

failing to keep abreast of the mechanical engineers and to exercise their prerogatives as the outposts, educators and social guides of the rank and file of the community.

THERE are two places in the North American continent, Ontario and California, where, by grace of nature's arrangements, giant power has been diverted from the traditional channels and has built the frame work of regional areas. The southern arable portion of Ontario possesses the essential elements of a region as that term is used in this number. And giant electrical power has done for this Canadian state what the regional planners, as shown in the project map on page 159 hope it will do for New York. When hydro-electric plants were first built at Niagara Falls their promoters had in view the development of a concentrated industrial district between Niagara and Toronto. They dreamt of an electrified Pittsburgh. Ontario had escaped the usual type of industrialization because it had no coal, and coal imported from Pennsylvania, Ohio or Great Britain was too dear to support an industrialized state. As a result it had retained much of its colonial character, remained a community of farms and small towns, with something of the charm of colonial New England. The very backwardness of the province, industrially speaking, proved a portentious social fact; it has helped it to leap over the stage of development which holds most of urban America in a vise.

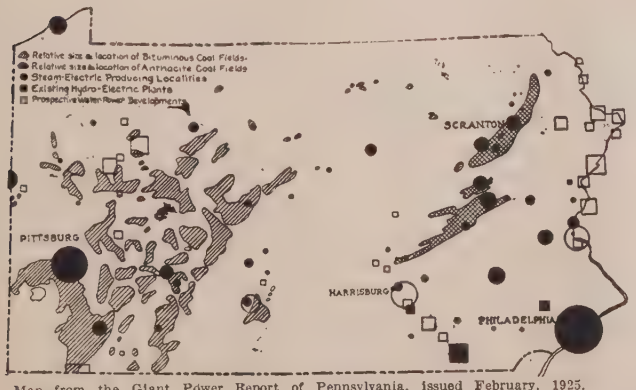
Power links in Pennsylvania: applications have been filed for the 220,000 volt transmission lines shown in solid black; the dotted line is an announced addition; the broken lines show probable further extensions

When the engineers began harnessing the Falls, the merchants, manufacturers and craftsmen in the small Ontario towns, together with their socially interdependent agricultural neighbors, rebelled at the notion of a huge suction pump at Niagara which would draw the life out of their communities and leave them gossip-rattling, Main Street shells or mere suburban satellites. Accordingly they fought for the organization of the Ontario Hydro-Electric Power Commisson, with a view to decentralizing the energy generated at Niagara and having it evenly distributed throughout the province in order that their small towns and rural communities might flourish after their kind. They won. Today their farms are undergoing rapid electrification; as contrasted with New York state, the small towns of Ontario are prospering.* Woodstock, for example, with its twenty-eight different industries all using electricity, which like the water supply is publicly owned and distributed, is growing with its roots in its own ground—not a one-industry mushroom boom town, but a sort of manor town to the surrounding countryside. Like scores of other towns within the Hydro region, it combines within itself and its immediate rural environment the opportunities for a balanced city and country life, of diversified industry and indigenous culture.

* See articles of Sir Adam Beck and Martha Bensley Bruère in Giant Power number of Survey Graphic, March, 1924.

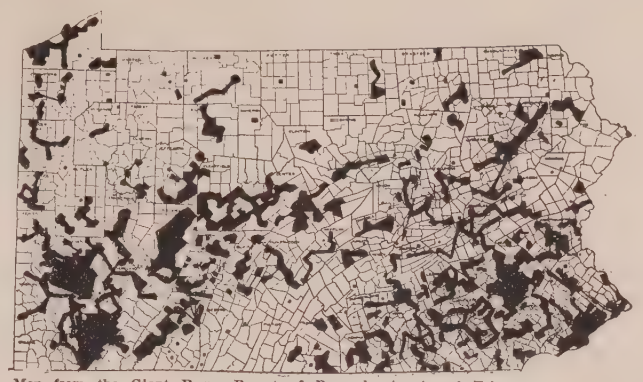
Now contrast with the wide spread of cheap electricity in Ontario, with its balanced development of town and country, the condition of our middle Atlantic states, of our industrial states generally. With us the industrial metropolis has dominated large scale electrical development. Our greatest electric generating stations have been built in already overcrowded manufacturing centers. The influence of this policy has extended even to the American side of Niagara where hydro-electricity generated at the Falls, instead of being spread out over the state for a radius of two hundred and fifty miles as in Ontario, is principally consumed in a few cities and factories clustered near the source. The main reason for this practice, apart from the fact that our seaboard cities are the funnels through which our agricultural and manufactured surplus flows out to Europe, is that the steam engine built our manufacturing mammoths with coal hauled by rail from the mines in the days before high-voltage, long-distance electrical transmission had taken form even in the dreams of the engineers. Instead of placing the generating stations at the mines, as Ontario of necessity placed hers at her primary source of water power, we have built ours where they could play second fiddle to the steam engine. Among the largest electric power stations in the world are those of New York, Cleveland and Chicago; and practically all power generated in these metropolitan plants is used within their municipal boundaries. Until this arrangement is reversed, until our primary power stations are placed at the mines as well as water falls and electrical current is evenly distributed over wide areas, regional planning will remain without its essential economic foundation and technical framework. For, it must always be remembered that except on the Pacific coast our major source of electrical energy is not water but coal; the bituminous coal seams of Pennsylvania, West Virginia, Ohio, Kentucky, Indiana and Illinois are our Niagaras.

IT is an interesting sign of the times, and one which social workers and social reformers generally might well note with humility, that it is a mechanical engineer who has most clearly seen the fundamental interdependence of



Map from the Giant Power Report of Pennsylvania, issued February, 1925.

Coal fields and power plant locations in Pennsylvania. The single cross-hatched areas show the relative location and size of the bituminous fields; the double-cross hatched are the anthracite fields. The circles indicate the principal steam-electric producing localities, and the squares in solid black are the existing hydro-electric plants; the squares in outline only are prospective waterpower developments. Giant power would integrate these sources of power into a regional framework



Map from the Giant Power Report of Pennsylvania, issued February, 1925.

Area covered by distribution lines of Pennsylvania in which electric service is available: The black area constitutes 20 per cent of the total. It is based on the assumption that points from one to one and a half miles either side of a distribution line which is known to be in existence can be reached by extensions at moderate cost. Half of this black area, or 11 per cent of the total, is counted as being actually served at present. In contrast with the situation in Ontario, electric power in Pennsylvania is largely concentrated in already congested centers

giant power and regional planning, and the far-reaching social implications of both. Morris L. Cooke, director of Pennsylvania's Giant Power Survey, invented the term "giant power" for the special purpose of focussing public attention upon the social opportunities and dangers latent in large scale electrical enterprise. The earlier prospectus of "superpower," as interpreted by its leading proponents, has for its primary aim the piling of power upon existing power in already congested centers. In transmitting the report of the Giant Power Survey Board to the General Assembly of Pennsylvania, in March, Governor Pinchot, who has interpreted Giant Power to the public, said:

> Superpower is the interchange of surplus power at the ends of the distributing wires of each system. Its principal object is profit for the companies—not benefit for the public—and it is on the way to being realized with a rapidity which it is difficult to understand. . . . Giant power and superpower are as different as a tame elephant and a wild one. One is the friend and fellow worker of man—the other, at large and uncontrolled, may be a dangerous enemy. The place for the public is on the neck of the elephant, guiding its movements, not on the ground, helpless under its knees.

With giant power stations at the mines instead of at the heart of great cities, and with an integrated and not merely an interconnected system of transmission lines, we shall be able to follow, and with our ampler resources, improve upon the example of Ontario.

But the desired social results will not follow automatically the construction of mine-mouth electric stations. They will need for their realization constant and intelligent planning. The public will need not only to be on the neck of the elephant but also to have its wits sharpened to make the beast do what it wants. Regional planning must go before giant power, if giant power is to be a region-builder and not like steam power a wastrel of our human and economic resources.

Regional planning is distinguished from city planning in much the same way that giant power is distinguished from superpower. Just as superpower would pile mechanical energy upon existing mechanical energy instead of giving it

wide distribution, so city planning in the narrow sense tends to widen the girth of big cities and so enable them to fatten and grow bigger. Regional planning approaches the problems of the great cities themselves not from within but from without, through the small town and the farm. The logic both of regional planning and of giant power points to the farm, the small town, the countryside as the first points of attack.

This accounts for the fact that Pennsylvania's Giant Power Survey, after establishing the economic and technical advantages of large-scale electrical generation in the coal fields, goes thoroughly into the problems of rural electrification. Of our 6,450,000 American farms, less than 3 per cent have electricity from central stations. Only in California, where electricity is derived principally from waterpowers far removed from the metropolitan centers, has rural electrification proceeded at a rate comparable to that in Ontario; there 27 per cent of the farms are supplied with electricity from central generating plants. In the United States as a whole we have made no serious effort to carry the fruits of modern electrical invention to the farms, although twice as much primary power is used by our farmers as by all our factories combined. But much of it is literally horsepower or mulepower—that is to say, relatively inefficient power because the tending of animals itself absorbs labor. Besides their upkeep is high and a great deal of their stalling and feeding will not wait upon the convenience of man. Nor are horses and mules handy about the house. They will draw plows and wagons, but they are not apt at cooking meals, dusting the floors and furniture, washing and ironing clothes. At best they are man's servants, not woman's. It is the women especially whom the isolation and hardships of farm life drive to the city or to insanity or both.

Contrary to the prevailing city notion, there is no group in our population that cling more tenaciously to their homes and their occupation than the men and women who till the land. But because of the backward state of agricultural technique the demand for the best farms is keen. Land values are high and without modern mechanical facilities the struggle to work with profit and to win reasonable leisure is increasingly hard. Because of their tenacious love of the land men go great lengths to obtain these facilities. In Lancaster County, Pa., groups of farmers have pooled their small resources in order to build dams and harness local streams so as to get electricity for their houses and fields and barns. One of the first uses to which they have put their high cost electricity has been to pump enough water to enable them to install modern toilet conveniences. How primitive the technical equipment of American agricultural life still is appears from the fact that in highly industrialized Pennsylvania only 46,402 of its more than 200,000 farms have water piped to their farm buildings, and that the proportion of those that have even an approximation to modern sewage disposal in their homes is almost as small. Tens of thousands of farmers in the United States have installed individual electric lighting systems or motors driven by gasoline engines to get even a modicum of electrical service.

But the cost of current so generated is almost prohibitive. Only exceptionally prosperous farmers can afford it. Of the 202,250 farms in Pennsylvania, 178,666 are without electrical equipment of any kind and only 12,452 have public utility service. On a liberal calculation, only 20 per cent of the total land area of the state has electricity within reach in spite of the fact that the world's greatest supply of fuel lies within its borders. Almost half of all the electricity used in Pennsylvania is generated and principally consumed in the Philadelphia and Pittsburgh metropolitan districts. Under a giant power system it would be economically feasible to carry electricity in five years to half the farms of the state, to 75 per cent of them in a decade —and until this is done the balance between rural and metropolitan life of the regional planners' dream will remain principally a dream.

THESE time estimates of five and ten years are based not only upon the findings of Pennsylvania's Giant Power Survey, but also upon actual accomplishments in certain European countries. The quandary which regional planning aims to resolve—abandoned farms and declining small towns on the one hand, overcrowded cities on the other—is not uniquely American; the older agricultural and industrial countries of Europe have known it, have wrestled with it, face it still. But some of them, like Ontario on our side of the water, have gone much further toward solving it than we. And they have found the wide distribution and social control of large scale electrical service the greatest single aid to its solution. Bavaria,* for example, has an area about two-thirds that of Pennsylvania; but it has a million or more acres under cultivation. Bavarian farmers, their wives and children, were growing restive under the economic and physical hardships of farming. The old home-loving generation was perturbed, the government was concerned. Electrical generating stations received public assistance, farmers' cooperative societies were helped to build and operate distributing systems. By 1921, a little over one-half of the rural homes in that stronghold of ancient customs and folkways had electricity; within five years it is planned to carry electrical current to every farm. Denmark has an area little more than twice that of New Jersey or one-third that of New York. Three-fifths of the population live in the country, three-tenths follow agriculture. Before 1918, electricity there, as with us, was a city luxury. But the spirit of agricultural revival, as all the world knows, was strong in the little kingdom. Today, one-half of the farms are electrically equipped, and it is planned to bring every farm within the electrified zone within ten years. In Sweden with her area of 173,000 square miles—about equal to that of New England and the Middle Atlantic states—60 per cent is forest, only 9 per cent arable land. Yet she has as much improved farm land as Pennsylvania, about 12,000,000 acres. Ten years ago rural electrification was practically unknown in Sweden. Her farmers' sons and daughters had their eyes turned to the cities and across the sea to Wisconsin, Minnesota and the Dakotas. Today 40 per cent of the 9,500,000 acres under tillage has access to electricity and the service is being extended. In these countries the romance of invention, craftsmanship and economic enterprise is again preparing to flower on the farms and in the countryside towns.

What electricity can do for the farm when it is obtainable in quantity and at reasonable rates from a central station is shown in the record of a single Pennsylvania farm reported by Professor R. U. Blasingame (*Continued on page* 188)

* For the social facts and statistics in this paragraph I am indebted to the article on The World's Experience with Rural Electrification, published by Harold Evans, counsel, Rural Electric Committee, Pennsylvania Council of Agricultural Organizations, in the Annals of the American Academy of Political and Social Sciences, March 1925.

The Road to Good Houses

By HENRY WRIGHT

We have paid too dear for our whistle—for the privilege of building as we pleased, indifferent to the community. If we learned to plan together we could cut the hidden costs of housing and put the savings into beauty and comfort that are now beyond our reach

THE housing problem is still associated in our minds with the slums of big cities. How could the tenements of the poor be made sanitary and reasonably safe, we asked—and the last generation made its fight for restrictive codes to prevent the worst evils of overcrowding and filthy living from appearing in the new quarters of our cities.

But the housing problem could not be kept in the slums; it has become universal. We still cling to the ideal of one home for one family, but statistics in the United States show that there are 1.8 families for each separate house; and the dwellings the majority of us must now accept are neither desirable nor satisfactory. New quarters of our cities are scarcely in existence before they begin to "run down." We are irritated by this discovery and put the blame on the high cost of materials and labor "since the war," or on the high cost of financing houses; but while these factors are real, they are not the essential source of our difficulty.

Let us pause a moment and see where we stand. In housing we are torn between an intolerable reality and an impossible ideal. The reality is that we are steadily being crowded into smaller quarters; and that the tenements and multi-family houses which people in "progressive" centers live in do not appeal to us as permanent homes. The noise, the lack of privacy, the incessant consciousness of neighbors, the bleak outlook from the windows are things we put up with because we prefer them to the present alternative—the hasty breakfasts, the dreary hours of commuting, the abbreviated third act of the play, and those other little discomforts which are the price we pay for an escape to Suburbia.

All the while we are lulled by the fancy that we will some day be able to realize the home of our dreams. We see it pictured in the house and garden periodicals and in our Sunday magazine sections; we hear it praised and boosted in Better-Home weeks and in Own-Your-Own-Home drives. It is the dream of a picturesque house standing free and independent on its own plot—a whole country estate if we have luck, but at any rate an independent and isolated plot. While we have learned to adjust ourselves to the bare utilities of the apartment, while we take a little pride perhaps in the disappearing kitchen and the disappearing bed, and are only waiting for some ingenious person to perfect the disappearing baby, no one must meddle with our Ideal Home!

Twenty or thirty years ago most of our suburbs

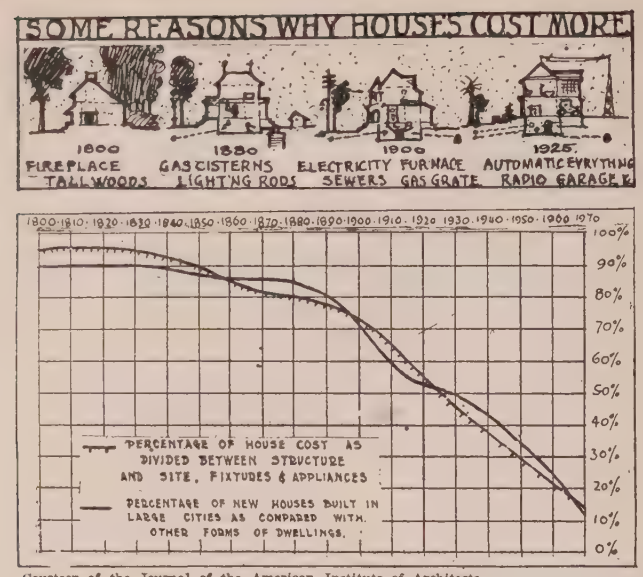
Suburbanitis

Our little home stood out alone
So brave and bold and free
Our little home it had a view
O'er valley, hill and sea.
Our little plot full fifty feet
We held in simple fee.

Our little home fronts on the road,
'Twas but a beaten track.
We had a bath and cistern too—
The drain ran down the back.
Our little chores made up for scores
Of comforts that we lackt.

And still our little home it is,
But not is it as was,
Our drain is stopt, our view is gone,
Our peace of mind, because,
So many neighbors crowded in
And children by the doz.

Our views have gone, our quiet too,
But other things have we;
A cement walk, a water main,
And E-lec-tricity.
But strange to tell, our taxes swell
And the bills are sad to see!



Courtesy of the Journal of the American Institute of Architects

What the actual structure of a house costs is today hardly more than what the site, fixtures and appliances cost, and the ratio of structure to site and utilities is steadily falling. Mr. Wright's graph indicates that the proportion of houses to multi-family dwellings in new city building falls at much the same rate, so that in another fifty years the auxiliary costs will wipe out the single-family house in large cities

could boast well-shaded streets and quiet lawns; and the dream was, for a brief time, not altogether hopeless. Today conditions have changed. In pursuit of the ideal home people use the automobile to escape beyond the borders of the city and beyond its restrictive building codes—and accept the inconveniences and often risk the dangers of bad sanitation and an inadequate water supply. With the housing shortage in our larger cities the small house has again appeared as an appreciable factor in the amount of housing available, but in respect to quality and desirability, the value of this trend may be seriously questioned. Within the limits of New York city no less than fifty miles of new small frame houses have been built, in long monotonous rows, with a single repetitive design, closely crowded together on poor land, usually without proper public facilities or fire protection, and often with the barest provisions for health and sanitation. Practically no recreation areas have been set aside in these districts. The houses are of the flimsiest construction and the cost of up-keep will be excessive and will fall on purchasers just when they are least prepared for it.

In Philadelphia with the relatively low grade and low cost row-house type, which has so frequently been cited as a distinctive advantage in that city, housing facilities are quite as far behind needs as elsewhere. In St. Louis areas set off and restricted for protected single family houses remain relatively unoccupied while those devoted to the multi-family house are being rapidly filled in. Even in Los Angeles with its influx of foreign wealth the erstwhile "bungalow" is being abandoned in much new building, and replaced by the efficiency apartment and apartment hotel.

It will no doubt be a shock to most home-seekers to be told that their ideal is impossible, and that it is precisely what stands in the way of any improvement in our housing prospects. But by our insisting upon building on the outskirts of our cities as if we were solitary Robinson Crusoes, we lose the genuine advantages of city life and civic co-operation, and before we know it we have lost the solitude at which we have been aiming. The fact is that our ideal home dates from a time when the costs of a house were all above ground. We have not adapted that ideal to the present condition, wherein 25 per cent of the cost of a house derives from the things that the community, not the individual, provides. On top of this, an additional 15 per cent to 20 per cent is buried in costs and services other than the actual building itself. We cannot solve our problems individually and in piecemeal fashion any longer; for the determining factors are outside our hands.

Our whole individualized process of home building at present is wasteful and extravagant. First, the land is taken out of agricultural use and is opened up, divided and sold—usually long in advance of its actual use. Someone must bear the waste and the carrying charges; both elements could be minimized under a community plan. Then by scattering the development of new streets and sewers and mains instead of opening them up hand in hand with the actual building of houses, the expense of municipal services and the cost of home sites is increased for the whole community. Since the eventual use of the neighborhood is not

How growing cities ravel out. Two adjoining sections of a single street in one of the larger cities of central New York. The houses at the left were built under city requirements ten or fifteen years ago. Those at the right, just over the city line, were set down anyhow and lack the amenities essential to city living. Only sound and comprehensive planning will prevent these ragged city fringes that waste property and human values

provided for in the beginning, even in so-called zone plans, streets are conventionally built on a scale which would eventually serve commercial purposes—another waste, for permanent residence areas may be served by narrower and more lightly paved streets than commercial areas. Building houses individually takes an extravagant amount of land; yet it provides neither sufficient garden-space nor privacy. In fact, with the usual multiplication of walks, passageways and driveways between detached or semi-detached houses there is continual noise, confusion and dirt, and a negligible quantity of useful space remains, particularly when the addition of a private individual garage takes up the last remnant that might be used for children's play.

The combined result of all these forms of waste and extravagance is reflected in the neighborhood. Many desirable things are overlooked or neglected because of increased cost; playgrounds and parks, for example, are seldom provided for, and if they are added later they are curtailed because of their mounting expense. Facilities for telephone service, gas and electricity may likewise long be inadequate, and when all these things *are* completed, the community becomes too expensive for the average family to bear the burden. As a result changes occur; either the poorer families are driven out, or the neighborhood "runs down"; perhaps lodgers and small businesses are brought in to help carry the load. The city may indeed attempt to bear the cost of elaborate municipal services to outlying neighborhoods that cannot meet their share; but this process cannot be kept up indefinitely.

The eventual fate of the extravagant neighborhood is to be added to those ill-kept and blighted districts which occupy the intermediate areas of our extending cities. In the expansion of the town from the center outward, the plain man is attracted to the edges by the prospects of an individual home; he wakes up to find himself in the midst of a slum. So the development of the city becomes a perpetual game of leap frog, in which the city consecutively destroys its border developments, leaving a wake of sordid, decaying areas, heavily taxed out of their original use, and on the point of being converted into the intolerable reality of the high apartment house, or the equally crowded tenement!

Meanwhile our practical builders go on producing substitute dwellings which fit our purses if not our desires. Since we have not yet learned to cooperate intelligently to secure privacy, gardens, sunlight and space for children to thrive in, the builder of the apartment house enables us to "cooperate" in a single structure, deprived of most of these things, but big enough to support the heavy load of taxes for municipal utilities. Here the benefits of cooperative living and comprehensive architectural design are reduced to

Six Planks for a Housing Platform

1. Plan simply but comprehensively. Don't stop planning at the individual property line. Adjust paving, sidewalks, sewers and the like to the particular needs of the property dealt with—not to a conventional pattern. Arrange buildings and grounds so as to give sunlight, air and a tolerable outlook to even the smallest and cheapest house.

2. Provide ample sites in the right places for community uses—playgrounds, school gardens, hospitals, schools, theaters, churches, public buildings, stores.

3. Put factories and other industrial buildings where they can be used without wasteful transportation of goods or people.

4. Cars must be parked and stored, deliveries made, waste collected—plan for such services with a minimum of danger, noise and confusion.

5. Bring private and public land into relationship, and plan buildings and groups of buildings with relation to each other; develop collectively such services as will add to the convenience and comfort of the individual at lower cost than is possible under individual operation.

6. Arrange for the occupancy of houses on a fair basis of cost and service, including the cost of what needs to be done in organizing, building and maintaining the community. A sense of ownership is precious; so is the opportunity for families to expand and shrink. The two can be combined.

All these principles are entirely practicable. Individually they have been tried out at various times and places during the last thirty years, and are no longer mere wishes or conjectures. Taken together they are not only possible, but they form the basis for any permanent and desirable solution of our housing difficulties.

At the left, a modern American development typical of our big cities—monotonous rows of cheap, flimsy houses. Excessively wide streets, paved for heavy traffic, and needlessly expensive utilities take away money that should have been used to improve houses and grounds. At the right, a row of workmen's dwellings in Welwyn Garden City, England. The street and utilities are adjusted to their use; no improvement has been neglected, but the expense has been wisely distributed

a minimum; not because a multi-family dwelling is necessarily inferior to a single-family dwelling, but because the design of such buildings is subordinated on the whole to a single motive—the most intensive use of the land, with a maximum yield of profit.

What is the alternative? The real choice is not between the "rent-barracks," as the Germans call the tenement, and the isolated House of our Dreams. The real alternative for most of us, as our wants become more complicated and as community costs go up, is between the rent-barracks and community planning.

We build and work as if we were lonely "monarchs of all we surveyed"—and achieve dull uniformity. Community planning, on the other hand, is a method of achieving individuality by learning to work in common. The contrast just pictured between the rows of individual houses, done in the American style, and the spacious well-planned groups of the English garden city is essentially not a contrast between two countries, but between two different types of planning. The few American examples of such community development, though perhaps they lack a little of the charm of the more practiced English tradition, are just as superior to individualistic chaos as the English plans.

There are many opportunities for intelligent economy in such teamwork. In small detached houses, to begin with, the cost of outside connections is often fully half the cost of plumbing and fixtures within the home. Contrast this with English progress in building low-cost homes for the worker, in which these accessory costs, by a system of combined drainage, have been reduced to 25 per cent the cost of individual service. This is typical of the whole process of community planning. Thus the cost for land and public services in present English community planning practice, under government regulation, has been reduced to less than 10 per cent of the cost of the dwelling, as compared with about 25 per cent with us. The net result of present English practice has been to produce these houses of permanent brick construction on a basis which is relatively more favorable than the usual flimsy frame houses in this country. In fact, the workman's home in England has been so studied and perfected in plan and economies of service that it has become the standard of home-building for all classes.

It is important to realize that these gains are not gains due solely to better financing or large scale production, though these are important factors, nor has the standard of living been pared down at any point. What has made the results so different from ordinary mass production has been the coordination of the entire process of planning both the house and the neighborhood so as to take fullest advantage of community methods. As a result each tract is supplied at the outset with its local park and playground; streets are proportioned to use and located with reference to service, rather than to the mere production of saleable front feet of land.

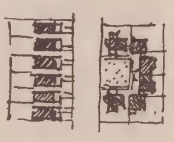
We have tested these gains in various isolated experiments in America, but progress has been discouragingly slow and limited. Here and there small groups of houses have been adjusted to site and group economies in roads, garages and minor community features, as in Roland Park, Baltimore, and St. Martin's, Philadelphia. The advantages of well-related planning were demonstrated in a number of the large housing developments carried out before and during the war. Unfortunately there was no opportunity to give the results an adequate test. The best example of utilization and management of these developments is probably that of the Bridgeport Housing Company. Here a wide variety of single, double and multi-family houses have been used on a leasing basis which approaches home ownership in the degree of community interest it encourages, while at the same time providing a desirable degree of elasticity in the adjustment of housing space to family needs and aspirations. Once the notion of tenancy is split off from what too often automatically accompanies it—badly planned living quarters—we may discover that our emphasis on home-ownership stresses only the virtues of that plan and does not reckon with its disadvantages. We must attempt to make the home itself stable and secure, so that a residence district will not always be threatened with increasing rents, increasing taxes, and a more intensive kind of use; but we need not regard the normal form of ownership as necessarily that by an individual family. The corporate form of ownership, such as that devised by Copartnership Tenants Ltd. in England, is just as stable; and it corresponds more nearly to the form we have found necessary in other branches of industry, involving a large initial capital outlay, whether run on individual or cooperative lines.

In the Sunnyside development at Long Island City, the City Housing Corporation has put into practice, under typical American conditions, a number of the

(*Continued on page* 189)

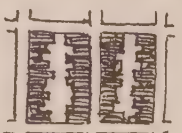
Group Planning

Two houses are combined on adjoining lots. Each has more usable free space.

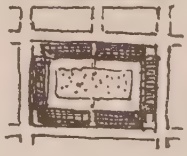


Six houses are built as a group. All are enhanced in outlook, privacy and open area.

Community Planning

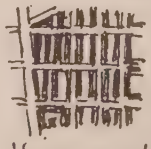


Forty builders fill up two city blocks with a motly mass of ugly and crowded tenements.



The community planner omits a costly street and groups more efficient and more open dwellings around a beautiful central garden.

Town Planning



A town is planned for platting and selling convenience. Ten per cent to 40 per cent is taken for indiscriminate streets.

A town is planned for efficiency and better living. Utilities are massed along main arteries with quiet and economical streets for residential use and large open areas are gained in interior locations.

A street in Welwyn, from the air

New Towns for Old

I. Garden Cities—What They Are and How They Work

By C. B. PURDOM

ENGLAND has two garden cities. They are unique examples of city building, because they deal with the physical structure of cities in a new way, and provide a practical economic basis for their plan. They deserve consideration not merely from the idealistic point of view, but as plain, common-sense business. Letchworth, the first garden city, is now an established financial success, the garden city company being not far from contributing out of its surplus revenue to the funds of the town, while Welwyn Garden City, though overtaken at its very inception by the financial collapse of 1920-21, has secured its position and promises to arrive rapidly at a full-paying stage. These are significant facts and deserve the serious attention of all who are concerned with city-building from whatever aspect. The success of the two schemes is to be traced to the characteristics that differentiate them from all other industrial housing and estate development schemes, and it is to these characteristics that I wish to draw attention here.

There are many schemes in America and England, and in most other countries of the world, that are called garden cities and possess, many of them, some features of the garden city; but none of them possesses its distinctive features. The Long Island town which bears the name Garden City, curiously enough, has nothing to do with what we may call the garden city movement; it antedates that movement and has features of its own that are only incidentally related to the garden city as it has come to be known throughout the world. Many so-called garden cities are housing or suburban developments, good in their way, some of them very good indeed, but with no direct connection with the garden city beyond what they owe to it in site-planning and so forth. Ebenezer Howard's garden city scheme, as first described in his famous little book Tomorrow, published in London in 1898, is that of a new self-contained town of thirty thousand inhabitants, with a wide agricultural belt surrounding it, which he suggested should be built to show how cities should be laid out and developed in the future. Mr. Howard's idea was to start city reconstruction, not in the middle of the congested and slum areas, but right away in the open country, so that industries and their workpeople, and the public at large, should have an alternative to staying in the cities, or even to living in the suburbs. He thought that if a good working example of this sort of city building were carried out, people would see its merits and a new direction would be given to city planning and development. There were two leading ideas in Mr. Howard's mind; one was that town and country interests would be combined in this system of comparatively small industrial town centers; the second was that improved values provided a certain financial basis for the scheme.

The garden city of Letchworth, founded in 1903, was an attempt on the part of Mr. Howard and those who had associated themselves with him (among whom were many leading men in business and politics) to carry out the full garden city idea. An estate of six square miles was purchased thirty-two miles from London, and the central portion was laid out for a town of thirty-two thousand inhabitants, the remainder of the land being kept as farm land around it. The town plan provided for an industrial area with road and railway access, areas for working class

and other houses, commercial and civic centers, and so on. The district was completely rural and the company that was formed to carry out the scheme had to construct water, gas and elecricity works, lay down a sewerage system, make the roads, and by methods of publicity and other means, attract a population to it. The company was called "First Garden City, Ltd." It had no statutory powers beyond those that any ordinary company possesses. The initial capital, subscribed mainly by the directors and their friends, was under £90,000, which was less than the purchase price of the land, so that the company had to mortgage the property to get funds to enable development to proceed. Development started early in 1904, and today, just twenty-one years later, the town has a population of thirteen thousand with over eighty factories, large and small, and is a thriving business and social center for a large area. Before the war, the working-class housing of the town was on an economic basis, and the attention given to cottage planning in the town gave an immediate impetus and direction to better industrial housing throughout England and the world. Since the war, working-class housing there has been subject to the same economic conditions as those that have been in force in the country generally, but a larger proportion of houses have been built under the Housing Acts than in any other town of a similar size.

An interesting point is that Letchworth has had a profound effect upon a large rural area. The small towns and villages that are adjacent to it have all increased in size and population and numbers of workers come into the town daily from the villages to work in the factories. Large numbers of families within a radius of six or seven miles of the town have had their financial positions much improved by reason of the additional means of employment offered to them, and there can be no doubt that Letchworth has enabled many young people to remain on the land who would otherwise have drifted away to London or some other great city.

The capital raised by the company in various forms has risen from £90,000 to £573,259 in 1924. Until quite recently the general opinion was that Letchworth did not pay; but that was always an inaccurate opinion. The greater part of the capital of the company has been borrowed money—mortgages, loans and debentures—and upon that capital the full interest has always been regularly paid. It is true that the ordinary stockholders did not receive a dividend until 1913, ten years after the scheme started, and that the full dividend was not paid until 1923, but the capital values owned by the company undoubtedly show a very large surplus—sufficient to pay the accumulated dividends on the ordinary shares several times over. The company will no doubt discover some method of funding that amount of accumulated dividend, or getting rid of it in some other way before long.

Letchworth is an example of a garden city *de novo*. The second garden city, which was founded in 1920, is an example of a satellite town of London. Welwyn Garden City, twenty-one miles from London, was established to show that the creation of garden cities at a sufficient distance from the great cities is the right way to provide for expansion of city population. The estate consists of four square miles of land, in an entirely rural district, and the town plan provides for a population of forty thousand. This scheme was also due to the energy of Ebenezer Howard, who managed to get a new set of people around him to take up the task of building the new town. The time was particularly opportune, for there was a great need for houses in the London area, and Mr. Howard and those with him believed that by laying out sites for houses in conjunction with sites for factories, thus creating new centers of population and industry, a better economic foundation would be found for building than by developing housing estates in the inner or outer suburbs. The site selected was a specially suitable one, being on main trunk roads and railway from London to the north, having level land adjacent to the railway for factory sites, and being in very picturesque country.

Almost at the same moment that the company was floated, the financial slump set in, credit was restricted, prices began to fall and a general panic followed the inflation and boom period of the later years of the war and after. This created exceptional difficulties for the enterprise, and many men would have been induced to abandon it; but believing in the scheme and being convinced of its national importance the promoters, with Sir Theodore Chambers at their head (he is one of the leading opponents of land-taxation in England, by the way), persisted in their endeavor to carry it through, with the result that it weathered the storm. The young town has now a population of three thousand, which is expected to double within the next eighteen months; industrial development has started with the advent of an important engineering works, and the erection of the first European plant of the Shredded Wheat Company. Welwyn is attracting great attention by reason of its architectural features, but more particularly because of its relation to the increasing problems of the expansion of London. The scheme is already showing the practicability of dealing with the root causes of congestion of population in the metropolis by establishing new centers in the sur-

What school offers in Welwyn—a "two-generation community"

Houses are grouped for sunlight, space and outlook

rounding country. In the large vacant spaces within fifteen to fifty miles around London there are sites for many number of garden cities, while still preserving wide areas of agricultural land between them and the city.

The two garden cities are examples of pioneer effort. They display the qualities that have made the English race the greatest pioneers and colonizers in the modern world. Difficulties of much the same sort as those which faced the early colonists have had to be overcome by the promoters of these schemes. Political and financial scepticism and inertia, the greatest of those difficulties, have required the utmost personal effort to break them down. The originality of the garden city idea, the fact that it aims at putting an end to the present system of city expansion, replacing it by a more scientific method of city planning, accounts for the obstacles in the way. Established interests are against it as they are always against anything new. But the overwhelming difficulties of the great cities' slums, traffic congestion, high rates and many others, make it inevitable that some remedy must be found, and the smaller cities, observing the straits to which undue expansion has brought the great ones, must seek for some way of avoiding them. Zoning and city planning are becoming popular, but something more constructive, something that touches the fundamental structure of cities is required. This is found in the garden city idea.

Just what is that idea? It may be summarized in the following terms:

A garden city is a town, that is to say, a distinct civic unit, having the political and economic characteristics of towns in the present day. A garden city is not a village, not even a large village, nor a housing scheme, nor a suburb. A village is essentially a rustic community, while the essence of a town is urbanity; it is a center of culture and manners, which means a variety of population providing opportunities for education, entertainment and social life.

A housing scheme is for a class, while a town is for all classes. A suburb is an appendage to a town, an incomplete thing, necessarily lacking the unity that a town must have.

A garden city is a town planned for industry and healthy living. Not merely a town, but a town designed to fulfill its functions. If a town is to be a center of industry and commerce—one of its main functions—there must be design in its physical structure. Towns should be designed for the industry for which they are best suited, and the industrial areas should be placed where they serve industry best and fit in with the scheme of the town as a whole. Towns are not only for work, but for life, and healthy living conditions, among which may be placed the physical amenities

of life, must be provided. The garden city therefore is conceived of as a town functioning as a whole.

A garden city is a town planned for industry and healthy living of a size that makes possible a full measure of social life, but no larger. This is where the garden city idea strikes directly at the current method of town growth. There is popularly supposed to be no limit to town growth. Yet without some idea of size, of a limit to growth, design is impossible, and planning is out of the question. The absurdity of most city planning is that it is a mere physical extension of towns devoid of any ideal of town life and any real science of town construction. Until city-planners can answer the question (or have it answered for them): What is the proper size for a town? they are bound to plan empirically, without science. And so everything suffers and will suffer in town building; for neither public buildings, nor roads, nor public services of any kind, nor commercial areas, nor industrial sites, can be adequately planned until the limits of the town are settled. For practical pur-

Welwyn roads and paving costs are kept in perspective

Letchworth workshops: humanized like the houses

poses a limit is always assumed; but the limit that is adopted has no basis in fact, and may vary for different purposes and with different persons. This is the most important of all city planning questions, and deserves the attention of economists.

In connection with the garden city formula the size of the town is taken to be that required for the full development of social life. This should not be regarded in a narrow sense, for by social life is meant all the activities of a community, including education, entertainment, industry. A due balance must be observed between these activities, and it should be remembered that towns are not to be regarded as isolated units, but as associating together for the attainment of larger objects than a single town could reach. So that the garden city idea of town development is that of a series of inter-related and distinct communities, replacing the conception of the gigantic city of today.

A garden city is a town, planned for industry and healthy living of a size that makes possible a full measure of social life, but no larger; surrounded by a permanent rural belt. In other words, town and country made one; the town including a central built-up area together with a surrounding rural district. The agricultural belt is the actual means by which the size of the town is limited. It protects the town from other towns, it brings the agricultural industry in contact with urban life and industry, and establishes agriculture as an element in town economy. In all countries the rural problem is no less urgent than the problem of the cities. The separation of the great mass of the population from agricultural pursuits, and the weakening of the rural districts by the over-concentration of population in the towns, are everywhere regarded as great evils. The solution is to be found in spreading the organization, financial opportunities, and social life of towns, over a wider area than is at present covered.

Finally: *A garden city is a town planned for industry and healthy living, of a size that makes possible a full measure of social life, but no larger, surrounded by a permanent rural belt, the whole of the land being in public ownership, or held in trust for the community.* The land on which the town is placed should be held in the public interest, so that the land values are socially enjoyed. This is the economic basis of the garden city. It is a well-known fact that land values rise with population; the garden city, founded on agricultural land, has its land values as they are created, reserved for the community. An idea of widespread effect, simple in its operation, fair and reasonable in its incidence, and disturbing to no vested interests. At the two garden cities the companies owning and developing the land are private enterprises; but the dividends and interest paid on the capital are limited in amount, and the balance of the revenues has to be devoted to the town. The matter cannot be dealt with here at length, but it is obviously the most important element in the garden city idea. For a garden city might well be defined as the development of a town on the economic basis provided by the systematic and deliberate creation of land values, the profits on which form part of the town's revenues.

Enough has been said to indicate the wide bearing of the garden city idea. It may be considered to be practical idealism of a most effective kind, an ideal conception of city life that has a proved economic basis.

II. Can We Have Garden Cities in America?

By ALEXANDER M. BING

THE creation of new towns—whether the motive be semi-philanthropic as in the case of limited dividend companies, or purely commercial, as when they are built by a large industrial corporation or a real estate operator—is no small task. There must be organizing ability, substantial financial resources and business judgment; there should be, as well, a desire for aesthetic and social achievement. We have missed some wonderful opportunities in America to blaze the way for better things. When Gary, Indiana, was built, for example, there was abundant organizing ability and financial strength. But there was no effective desire for either aesthetic or social achievement. In other cases in America the artistic ideal has been carried out splendidly, but business judgment does not appear to have been as keen. Unfortunately where one of the necessary elements has been present, one or more of the others have been lacking.

The presence of the International Garden Cities and Town Planning Association in America for the first time raises the question sharply—are conditions in America suitable for a garden city experiment? If they are, do we who possess the energy and ability to do so many wonderful things, possess also the idealism and organizing force that must be combined to make it successful.

Let me enumerate briefly some of the factors which must be united to build a successful garden city. In the first place there are the requirements for a proper site. These include a sufficient area of undeveloped inexpensive land—from two to ten thousand acres. For the proper handling of freight this land should be on a trunk railroad with good automobile roads leading in several directions. It should also be reasonably near one of the big cities. Healthfulness, a good source of water supply and a certain amount of natural beauty are required. The nature of the topography should lend itself to easy and inexpensive land development over a considerable area. A central portion of level land with surrounding hills in the distance, some wooded areas and a stream and lake would make an ideal combination.

These requirements can undoubtedly be met in America, although it is more difficult to fulfill them near a city like New York, than it is in the neighborhood of London. It can safely be said, however, that our failure to initiate a garden city experiment is not due to the scarcity of suitable acreage.

When we come to the financial requirements for our American garden city, the answer is not quite so simple. There is obviously no lack of capital for the ordinary commercial enterprise. But the possibilities for social usefulness in pointing the way, if not in achieving better methods of community planning and organization, will not be realized if the proposed garden city is to be built with the sole object of profit making. Such an enterprise should rather be under-

taken by a limited dividend corporation. It must be confessed that we have been backward in the organization of such companies. Philanthropic foundations of a magnitude elsewhere unknown are flourishing in America. But the business enterprise which, to achieve a social end, voluntarily limits its return to investors has not in the past made as strong an appeal in America as it has in Europe. There is no reason, however, to believe that the American public will not respond to an appeal of this kind. There is also reason to hope that, some day—let us trust in the not far distant future—the existence of these philanthropic funds will constitute an element of strength for properly conducted limited dividend corporations. It seems reasonably certain that with all the wealth there is in this country, financial resources can be procured to make possible the building of a garden city along limited dividend lines.

It should be pointed out however that in America a very much larger amount of capital would be needed than in England. Letchworth was started with less than half a million dollars. Its development was much handicapped by this inadequate financial strength, and its growth on such slender resources would have been unthinkable had it not been for the English system of building on leasehold land, and for the fact that for many years housing enterprises have been subsidized in one way or another by the British government.

In America a short-lived tax exemption has been our only form of government housing aid. If a garden city were to be projected it would be essential to have sufficient capital on hand to do most of the building of homes, factories and public utilities. A certain amount of financial assistance would probably be forthcoming from industrial corporations wishing to locate in the new community, but success might be jeopardized unless the garden city company had complete financial independence.

Furthermore, the success of land development enterprises depends perhaps to a greater degree in America than in England upon reasonable speed in the prosecution of the work. Taxes and interests on the cost of vacant land and public utilities accumulate rapidly. Even though a large amount of increased value results in the process of development, this increase will be absorbed by carrying charges unless the development can be carried out rapidly. Letchworth, in the days of its first growth, was favored by the lower interest rates then prevailing in England. In this respect Welwyn, the more recent English experiment, has been less fortunate. Both, however, received large amounts of money from the government at low rates of interest; such aid could not be expected in America. The financial problem does not seem insuperable, but it is a major difficulty.

The exact amount of capital required to make a success of such an experiment would vary in different localities and would depend upon the size of the city to be created. Between ten and twenty-five million dollars would probably be needed.

The third requisite for success is technical and organizing ability. The latter America possesses in abundance. As for technical skill, England has probably had more experience than America in town and community planning. But war housing as well as a number of large private enterprises have shown that we are not without skill in this important professional service nor can there be any doubt as to the ability of our technicians to adapt themselves to the problems which the new experiment would present.

We now come to the internal arrangements of the town itself. It would be desirable, if not essential, to make at least tentative arrangements in advance with industrial companies who would be ready to occupy sites in the new community. Given the rapid expansion that has taken place in many of our industries, it would not seem difficult to find such corporations. Whereas in the ordinary town an industrial corporation would face the difficulty of finding homes for its workers, in a garden city these homes would be provided. Not only would the industrial corporation be relieved of one of its major problems, but the housing available would be of a very superior kind, in ideal surroundings, and offered at moderate prices. Other necessary conditions, such as transportation, accessibility to a big city, climate, etc. being fulfilled, there is no reason to doubt that very favorable arrangements either as to the lease or purchase of land could be made with industrial corporations. But in order to eliminate possible delay, it would be desirable not only to make arrangements in advance with a number or industries, but, if possible, to begin the erection of a plant at the same time as houses and schools are being built.

Here arises a very real difficulty—the provision of inexpensive homes for common labor. In older communities it has been the practice to house those who are lowest in the income scale in left-over buildings, those that better paid workers would consider undesirable. New houses cost more than the unskilled can afford to pay. But in the new community there will be no left-overs. Everything will be fresh and new. Will not living accommodations be too expensive for unskilled workers? In England this difficulty has been largely met by government subsidy of one kind or another. In America we could not figure on assistance of this kind. Large quantity production, cheap land and the various economies that would result from the building up of the community in accordance with carefully drawn plans would help somewhat to reduce costs. It might also be possible to give the unskilled worker the benefit of at least a part of the increment which the development of a farming area into a large, flourishing community would bring about in the business portions of the city. Public utilities, the control of which would be kept by the garden city company, would probably be very profitable. Perhaps a portion of these profits could be used to reduce the housing costs for the lowest paid workers. A type of dwelling (similar to some of the houses that were built during the war) might also be developed to permit the subletting of rooms under better conditions than those which exist in a house or apartment not specially designed for the purpose. This idea was used by Andrew J. Thomas in his recent operation at Bayonne; a room and bath is located at the entrance to the apartment so that it can be leased to a roomer without disturbing the privacy of the home. It might also be desirable to give a partial tax exemption to houses whose value or rent per room was less than a given amount. In one or all of these ways it might be possible to reduce housing costs sufficiently to meet this difficult problem. In the new community, moreover, the worker would live near his work and would therefore save the car-fare and fatigue incident to a long journey back and forth from home to the factory. Certain goods would probably be cheaper, and an opportunity could probably be given to everyone to cultivate his own vegetable garden.

On the other hand, the difficulty of providing a decent home within the purchasing power of the lowest incomes would be somewhat increased (*Continued on page* 190)

Two-Generation Communities

By JOSEPH K. HART

"THE crowd on the boulevard never grows old," said a brilliant Frenchman. This is an astonishing fact—of city life. Any particular individual grows older, year by year, and finally disappears, never to be seen again. But the crowd remains as it was. It is little, if any, older today than it was fifty years ago; it will be little if any older a hundred years from now. It is timeless, ageless, unchanging—save in one respect: it grows larger from year to year.

These facts, casually felt by all of us, help to explain some of our city building activities and some of the mysteries in our "plans" for the future of civilization. We are building cities as if they were to be the home of this single, timeless generation; we are "planning" a future that is to be the possession of none but adults.

This trend may not be new. The human race may never have seen itself as a two-generation adventure—moving with a "bi-polar momentum"—age and youth side by side, ever at odds, ever cooperating, ever changing places and shifting parts. None the less, in simpler orders of society, in rural and village communities, and even in small cities, the two generations have always been more or less differentiated; one generation grew old and passed, and another came along to fill the places left vacant. So it seemed; so common talk implied; and so, in some degree, at least, men planned. Then the ancient Feasts of Childhood were not kept in reminiscent sadness, but for the purpose of making vividly real those immemorial joys which, of a right, belong to the generations whose all-sufficient excuse for existence is that they renew the youth and beauty of the earth.

But the city, with its ageless crowds upon the streets, has dimmed, even if it has not destroyed, those earlier ways. The modern city has difficulty in making itself aware of a second generation of real people. It makes its "plans," mostly, as if the race were truly that timeless generation seen in the unchanging crowds; as if humanity had become, after the fashion of one of the city's prize inventions, a perpetual corporation, measuring its existence by centuries, not by mere mortal years.

Making the race a single, continuing generation has simplified the city's problems, or so it seems. It is easier to build a city for adults alone, than to build for children alone, or for two generations living together. With the adult, alone, in view, the city can be made an earthly paradise. Asphalt and concrete are better for pavements than is gold; and gold will serve better uses. The automobile is a chariot of fire: it swings its owner from the office to the club, the hotel, the apartment house, or the railway terminal. A comfortable warmth, not to say heat, pervades all these places, setting them in vivid contrast with the rigorous ways of earlier times. The hot office; the hot financial trail; the hot "battle of the giants"; the hot addition to the bank account! Then, the hot apartment, the hot bath, the hot dinner and the hot show—ending with superheated dreams of more wealth, floating on the tropical seas of achieved desire—at least in sleep! What a hot, magnificent world the adult's city is! As for its children. . . .

THERE *are* children in cities; at least, there are immature human beings there, though where they stay is often much of a mystery. They have no place in apartment houses "of the better sort," nor do they much care for the heats of those adult delights. There is small room on the streets for them, except as fillers of crevices in the crowds. They have been rightly legislated out of the factory. Playground spaces are inadequate, and they must keep off the grass in the parks and on the golf courses. There is no place for them—as children. The adult's city cannot use them—as children. They "interfere with the traffic."

The city wants them as "future citizens"; as future labor power; as understudies of adult ways; as the "coming generation." The city has room for them, not as children, but as the lower fringe of the adult generation.

For these reasons, the city more and more looks after their health; health pays dividends. The city has learned how to provide a higher general level of health for these immature adults than they would ever have known just as children in a less efficient community.

These coming adults must also be trained for their future duties. Elaborate schooling is provided; and the city almost believes at times that this schooling is education.

But the school answers a former inquiry: city children spend much time in schoolhouses. They are there ten months each year; and most adults would like to see them there the other two months. It's the logical place for them: there they are getting ready to be complete adults!

The city school does not know children, as children, either. It knows them as candidates for adultship: they are preparing "in a few short years" to take over "the magnificent heritage" their pioneering parents have built up for them. Seldom are they children in their own right.

Youth must learn the ways of the adult world. The adult world "has its standards." Workmen must adjust themselves to standard tempos of the machines, or take the consequences. Their understudies in the schools must learn to make the same adjustments. It is the business of the city school to begin the processes of initiating these variant nervous systems of childhood into the standard tempos of the city's industrial machine. The passing from the academic world to the real world will be more easily made, if this is done, and there will be no break between the generations.

Fairness requires the record that some people think the city can be saved from all this, and that a place can be made for children, in their own right, in urban areas. A few hopeful parents and teachers; some recreational leaders; an occasional minister of the Gospel of the Child: a handful of men and women, struggling valiantly to save some bit of the city by erecting barriers against the tides of industrialism and exploitation. Their success is fitful, unconfirmable. To the industrial city, childhood is a sort of

sentimentalism "which the real world will soon enough knock out of their silly heads."

No one has "willed" such results. At moments, even the most hardhearted denizen feels a pang of pity for the child in the city. But "business is business": "We are engaged in a world-struggle for industrial supremacy, and if we don't win we shall all starve. The child who can't early learn to share this mighty enterprise, will probably prove too much of a burden to be carried at all. If it were not for advocating 'birth control' we could argue that he ought never to have been born."

That is to say, the city is caught in the drift of competing industrialism, and is as helpless, for all its pride of power, as is the unfortunate workman whose sleeve is caught by the flying connecting-rod and who is whirled round and round, until he is thrown, a bit of pulp, in a huddled heap in the corner. This is the other side of paradise!

Perhaps it has occurred to the not too gentle reader that a great improvement might be made in this city arrangement, namely, by abolishing death. So, the fiction of a single, ageless generation would become a fact; children would become unnecessary; and all the social wastes of immaturity would be obviated. If Bernard Shaw could but take us "back to Methuselah," extending life to three, or six, or nine centuries, and hatching a few children from educated eggs; if the rejuvenators could banish death from the earth, how great would be their benefactions: the wasted years of childhood evaded; sums spent for schooling saved; all the emotional wear and tear that comes of treating children as children made unnecessary; even the costly wastes of sex emotions escaped—were not such achievements a taste of real paradise! A life without past or future, growth or change: an everlasting Now, walled in gorgeous marbles, softened with downey cushions—with a ticker telling of the market's rise—what could imagination ask for more?

But a doubt intrudes. May not the fortunate ones who shall live in that nobler age feel a great lack—a meaning gone from the earth? Will they not miss the joy and beauty which, even in cities, can still sometimes be seen shining in the eyes of lovers and in the faces of little children? Will they not find the old stories, now and again, telling of precious experiences they have never known, nor even dreamed?

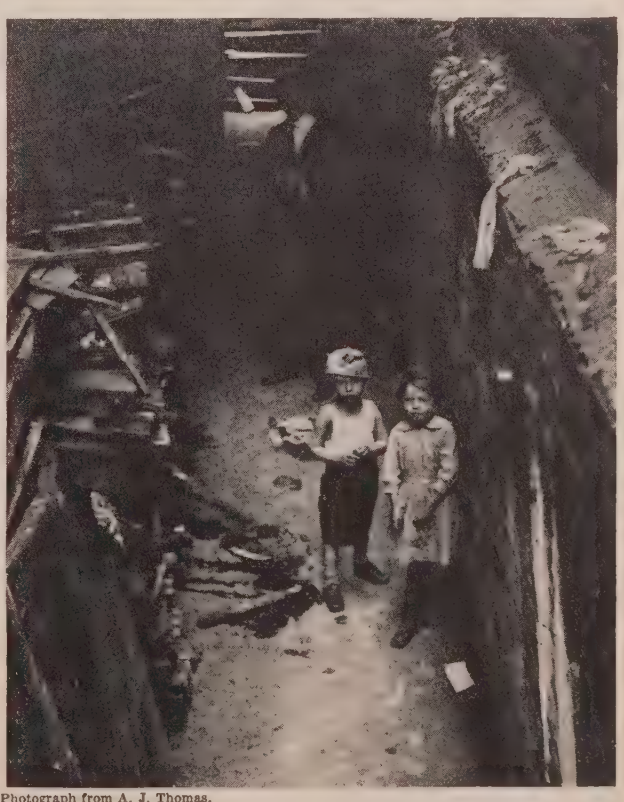
Maybe, after all, we'd better not be too sure that such a city would bring the ultimate civilization in. Maybe its promised languors have dulled our wits. Maybe we shall do well to try to save those elemental realities, lightly regarded by a machine-made age, that still make living tolerable. Maybe we'd better try to keep some bit of youth and beauty while we may. . . .

BUT how shall these be saved? The answer lies dimly disclosed in the shadows of experience. But one phase of it seems obvious: These treasures of youth and beauty cannot be saved unless men can find room enough, once more, on the face of the earth for two generations, youth and age, to live their lives side by side, each without being destroyed by the other. An adult world must live on the husks of its ancient beauties. A two-generation humanity, living in its two-generation communities, will be able to save, not only its effective mechanisms, but also those spiritual meanings, without which any mechanism is bound to become a clanging machine which grinds out endless dust.

How shall we describe the "two-generation community," here proposed, whose bases are plotted in the accompanying articles? It must first, of course, have space, or rather spaciousness. There must be room for youth to be youth and for age to be age, each generation being able to live and change and work and play—at its own interests—each recognizing the existence of the other, but neither attempting to crowd the other out of the scene. The earth still has room to provide such spaciousness.

Here will be found variety, both physical and social. The limited offerings of a city's streets do not suffice to nourish that great experience which must be characteristic of the world-citizen of the future. The infinite variety of nature is needed: landscapes and waterscapes of some variegated country-wide, with the arch of clouds and skies by day and night; plants and animals in all their natural profusion, wild and tame; the processes of production in nature; the amazing chemistry and physics of soils and of growth and decay: the living fabrics of nature, woven year by year in all the patterns of the seasons—what does the "inmature adult" of the city know of all these things, and how can any common being grow into a human being without long living in the midst of them, under their stimulating influences?

But social variety is needed not less than physical, and in this the city fails the child. In the city, industry is a flame-breathing monster that would smother his body and sear his soul: in a more spacious community, where home and shop could touch each other and the meanings of work could be made clear, industry might bring him wide ranges of creative experiences—materials and processes combining breathlessly under his eyes and in his hands to the produc-



Photograph from A. J. Thomas.

Children of the city alley

tion of useful and beautiful things, himself not least of those things. Here he might also escape the ruck of dirty streets, pursuing "cops," gaudy parades and family talk about how to beat the taxes. Here he might have play and physical adventure that would set a-thrill every primitive fibre of his being. Here his mind might find freedom to expand beyond the limits set by adult custom, since he could make his appeal to realities found in his own exploratory experiences. Here his moralities might escape the barricades of old folkways, memories and fears, and here he might learn to build for himself a new moral world out of the facts of life, the hopes of the future and his own creative imagination. Here his religious feelings might cease to concern themselves with means of escape from reality into some dogmatic "community of the saints" and become more devoted to the development of a growing community of good will.

Here, above all else, his education can be something more than a schooling of all his being in the rigid forms of the past. A humanity intelligent enough to rediscover for itself the necessity of such two-generation communities will be intelligent enough to discover that education does not, and cannot, go on in schools, alone; nor can it consist of copying the past; nor can it result in the subordination of the new generation to the old. Every experience of life will be educative (even as it now is), and they who have education in charge will know and not ignore that fact. Schools there will be, of course; but they will not presume to dictate what education shall be. School men, in that wiser day, will know that it is the whole community life that educates, not any narrow aspect of that life, not even the school. Schools will not so much teach the child; rather they will teach the community, and let the community teach the child, knowing that, in the long run, that is what happens, anyhow. And the ultimate test of that education—wrought of the community life under the leadership of the school—will be: Has it brought to the child—now grown man—richness of experiences, breadth of outlook, accuracy of technique, integrity of personal development, and the will to act in accordance with such continuous integration? Such an education can never be the product of a school: it can be produced by nothing less than a community life which possesses characters like these. A school can share in the process of such an education—that is to say—an intelligent school can do so!

No city possesses such characteristics, save, it may be, in isolated bits, here and there in the mass. Certainly no city now existent possesses them in such fashion as to be able to make them the daily community of its growing children. Small cities, towns and rural neighborhoods might have them, if they dared to revolt against the city drift and build for themselves a community life upon their own foundations and out of the moral and spiritual resources of the age and of the ages. Here and there, groups and individuals are toying with the ideal, but almost uncertainly, as if they feared that decentralization of life and culture and intelligence were a crime, or might, any moment, be declared a crime. Ah, if we could but see that it is too great centralization that is the crime!

SOME of the indolent will likely say: "All these things are very fine in theory, of course, but they are impracticable, because they violate economic law." But what "law" do they violate? They violate exactly the same "law" that is violated every time a city reserves a part of its area for the use of all the people as a park. That is to say, they violate no *law;* they merely interfere with a range of human desires.

Men have many desires, including the desire for more room. With some, this desire for space to breathe in is more of a "law" than is the "instinct to huddle on the smallest space." Our minds have been debauched by the doctrine that our desires are "economic laws." Such "laws" are in disgraceful conflict with one another: the "law" of the search for breathing space being in irreconcilable conflict with the "law" of huddling on the smallest possible area. These are not *laws.* These are primitive, unintegrated human desires that flaunt themselves. But any one who "violates" one of them does nothing more criminal than to assert that no one of these desires ought, merely because it has been more exercised and is, therefore, more blatant, to be regarded as more sacred or more inviolable than the rest.

Therefore, the problem is not that of "obeying economic law." It is that of developing social and individual intelligence up to the level of our real needs. There is plenty of space in the world for two-generation communities. Such communities must be planned not merely with respect to the satisfaction of one of our desires—as are our present cities—but with respect to an intelligently balanced organization of them all. Room can be found for all of human nature—just as fast as we escape from old fears and old folkways and old vested wrongs, and learn to want room for all of human nature, instead of for certain prejudicially selected parts of human nature, only. Eventually we shall find that there is just as much "law" for building our communities with space enough for two generations as we now think we have for doing nothing but what we are doing. The crucial question is: Who is to be the giver of these "laws"—the prejudicial and vested past, or some more intelligent future? A civilization that becomes intelligent enough to realize that it consists, not of a single, timeless generation, but of two changing and shifting generations, will be intelliegnt enough to escape from the falsification that first erects desire into "law" and then invests that "law" with inviolable character.

When once our intelligences shall have escaped from those ancient dogmas which now submerge our imaginations and water-log our wills, we shall see that nothing stands in the way of these finer communities but our own inertias and cupidities, our ignorance and our fears. Such obstacles, it is true, are not to be easily overcome; but they have no ultimate, metaphysical reality; they are merely of our "minds," and when our minds are ready for the new type of world we shall find no immovable obstacles standing in the way.

The future holds in trust for us, if we want it, the promise of this new community: not a children's community, alone, for a children's world becomes sheer sentimentalism, just as an adult's world becomes clanging mechanism; a two-generation community, instead, in which youth and age can live side by side—ever cooperating, ever at odds, ever changing places and shifting parts—with youth and beauty endlessly renewing the clue to life's elusive meanings, and with age and wisdom promising the eventual means by which that clue can be joyfully followed into a genuinely human world.

EDITORIALS

COMMUNITY planning—that is, the application of intelligent forethought to the utilization of land—has had four stages in this country. The first is the stage of no planning at all, the stage in which towns just grow; the second the stage of filling out the routine rectangles laid down by the municipal engineer's T-square. The third is city planning as we have known it in the last three decades—an affair first of civic centers and monuments, then of highways and zoning and parks and transit, which concerns itself with the city as a whole and increasingly with the suburban area as well. The fourth is regional planning as it has been defined in the foregoing pages.

It would be more accurate to speak of four phases of planning, for all four are with us today. The "realtor" and the city engineer still set the stage for new "developments" in many cities. The regional planners, however they may mold the future, are just becoming articulate. Zoning or planning commissions or both are, on the other hand, accepted as essential adjuncts by most large cities and many small ones, though they are still far from achieving that degree of authority and public confidence which would give them freedom to do their best work. In great part they must still struggle, in the fact of inertia or overt resistance, to establish the right of the city to grow intelligently through a measure of public initiation and control. But they have won general acceptance for the idea of planning as a means of ameliorating city life.

CITY planning (once having shaken off its preoccupation with the "city beautiful") has been developing for thirty years a technique for doing what chance and enlightened self-interest so signally fail to do in the unplanned city—adjusting public utilities to public need. It has attempted to substitute function for geometry as the basis of street plans, utility for politics as the major factor in locating public improvements. Beginning with Burnham's plan for traffic circulation in Chicago there have been major street plans galore; transit and railway plans followed; and within the last nine years zoning, though still in an experimental state, has been used to strengthen public control over the uses of private property. Finally, the country over, a large number of comprehensive city plans have been devised and to some degree put into effect—plans which seek to coordinate city-wide schemes for traffic arteries, rapid transit, parks and playgrounds, public buildings and the like. Today we see Chicago boldly reshaping its lakefront, bodily transplanting its produce market and, through its Regional Planning Association, reaching out to deal with power and transportation in its environs; Pittsburgh has a finely articulated plan; the federal government has santioned the movement to recapture the integrity of l'Enfant's Washington; and the Russell Sage Foundation is making an Herculean effort to show the New York metropolitan district how to save itself from being strangled to death by its own bulk.

All this has had a wide educational influence. The public has come to realize that city planning means more than laying down new streets; that it is unsafe to rely on individual self-interest to provide automatically and wisely the services that a city needs; and that when the general welfare of the community and the property interest of an individual are in conflict the general welfare should take precedence. The city planner himself has gained immensely in professional competence. He has learned to deal with heights of buildings, widths of streets, capacity of transportation routes and many other matters, not one at a time, but together. He is able at any given time to plan these elements in such a way that taken together they will more adequately serve the city's needs.

BUT "any given time" is an empty abstraction. Over a period of years, our present city planning consists of attempts to contrive results without having any adequate control over causes. The use that is made of public facilities depends directly on the use that is made of private land. Nothing permanently adequate can be planned or constructed, in the way of streets, parks, or transit lines, so long as the non-public land is subject to uncontrolled changing use and an ever-increasing occupancy. As Frederick Bigger, city-planner of Pittsburgh, puts it: "Planning for the future development of any community in a permanent way is impossible when one part of the community, the private part, is constantly changing and thereby creating a demand for the changing of another part, the public part."

Take the major street plan. It usually involves street widening. Street widening encourages increasing traffic; increasing traffic increases property values; increased values encourage the owners to put up bigger buildings; these buildings hold more people, attract still more traffic and cause a demand for further street widening or for subway thoroughfares. When these are provided values rise again and the sequence is repeated. Meanwhile the municipality, not being run as a "business," usually appropriates such a trivial part of the increased values through taxation that its ability to keep pace with the demand for development is increased little if at all. In this vicious spiral the city tends to become physically choked and financially bankrupt.

Milestones in City Planning

Seventeenth Century

The New England Village: completely planned for civic, domestic, agricultural and industrial life. The first "garden-city."

Penn's Plan for Philadelphia: the first formal plan with open spaces for squares and a rectangular layout of streets.

Eighteenth Century

L'Enfant's Plan for Washington: complete provision for governmental institutions on dominating sites, interconnection by grand avenues radiating from centers—all superimposed upon the gridiron plan.

Nineteenth Century

1811. Complete Plan for New York city up to 155th Street. Rectangular pattern; no attempt to select special sites; total disregard of natural topography, ignorance of points of entry and exit, and obliteration of existing villages and roads—except Broadway. An indefinite expansion of the city, for indefinite purposes, into an indefinite future; a plan that promoted the rapid turnover of land for the sake of speculative profit. This type of planning became a pattern for the rest of the country; and even rural sections were laid out in rectangular quarter sections.

1854. Central Park, the first landscape park, planned.

1893. Layout of World's Fair at Chicago calls attention to lack of order, symmetry, regularity and civic beauty in American city. Foundation of city beautiful movement, municipal art juries, and projects for civic centers.

Twentieth Century

Restoration of l'Enfant's Plan for Washington, and initiation of D. H. Burnham's plan for Chicago. Renewed attempt at comprehensive planning of avenues, parks and sites for other purposes than sale.

1916. New York Zoning and Heights of Buildings Restriction Law. Attempt to treat city as a functional unit; and to restrict free play of private enterprise in interest of general welfare.

1917-1919. Planning of complete industrial villages by War Housing Corporation and U. S. Shipping Board as part of comprehensive coordination of industry and housing.

1922. Creation of Russell Sage Committee on Regional Plan for New York. Constitution of New York State Housing and Regional Planning Commission.

The same cycle takes place in park and, notoriously, in transit development. In the New York World, Louis Weitzenkorn puts it pithily:

> Give a New Yorker an inch and he'll take the "L" and ride to work. Six days in the week, from the reaches of the Bronx and Brooklyn, will he come sweltering through the subway under this island to his job. Then, on the seventh, he sits down and writes to the editor demanding more subways.
>
> What, in the name of common sense, does the man want more subways for? Give him one and he goes out a little farther to cheaper rents and painted bungalows to crowd up a new district until the traffic again becomes insufferable, when he starts moving and howling for another line.
>
> To our obtuse economic way of thinking, this seems rather silly. The more subways, the more suburbs, the more population.

Most of us think of the problem of city transit as the job of getting people home in the evening: hence we think more subways will make for decentralization and eventually "a seat for everybody." But subways and street cars exist just as truly—and as a business proposition much more emphatically—for the purpose of getting people to work in the morning and to the shops for shopping. In a sense they must manufacture congestion or go out of business.

The essence of planning is the establishment of comprehensive relationships. Without them it can be nothing more than a temporary expedient. Spreading the planned area beyond the boundaries of the city may slow up the cycle of "relief" and congestion, but can hardly alter it fundamentally, for scarcely more than planning within the city does it provide equilibrium between plan and population.

IT is here that the idea of regional planning breaks with the conventional city plan. And a wrench it is. For the regional planner makes bold to discover the truly economic use of wide areas of land, rural as well as urban, and then seeks to stabilize the drift of population by bringing people permanently into the most productive relationship with those areas. He calls upon us to rid our minds of the delusion that mounting census figures mean betterment—no light task, for as Mr. Ackerman points out the hope of gain through rising values is dear to us all, so dear that we are virtually silent partners in congestion. He calls on us to accept the idea of permanence—though we are scant three generations from men to whom the wilderness continually beckoned, and our own generation boasts loudest when it boasts of change. He calls on us to free ourselves from our infatuation with the great city—when every little city is praying for its first skyscraper and lighting up its great white way, and every big city tries to outdo New York and Chicago in bulk of building. The regional planner calls for a right about face; his only hope of a hearing is that he has, on his side, reason—and whatever is left in us of hunger and love for the land.

SOME months ago The Survey published a vigorous and well-documented indictment against the practice in the major religious denominations of subsidizing little competitive churches in town and country with funds raised for home missions. (What the Left Hand Doeth, by Fred Eastman: June 1, 1924.) Such competition has long been deplored, but, as Mr. Eastman pointed out, it was bootless to deplore the competition while it was still financed in this fashion by the denominations. Several recent events, however, give ground for hopeful anticipation of a general change of program. The national staff of the Presbyterian Board of National Missions has recently adopted a resolution that "it be the policy of the board not to use national mission funds to support competitive enterprises." That is a most forward looking position. Courageously held, it will make that board a model in this respect for its sister boards in other denominations; it will release thousands

dollars for more needy work, and it will drive a nail in he coffin of overlapping denominationalism.

The Columbus convention of the American Country Life ssociation pounded another nail in that coffin. Sectional eports condemning church competition were brought in y representatives of the rural pastors, theological students, ocial workers, agricultural extension workers, Y.M.C.A.'s nd Y.W.C.A.'s, community churches, religious education orkers, and country residents. The students were especi- lly outspoken in their attitude, declaring that they found the work of the Kingdom of God being hindered and eeting as its chief obstacle the multiplicity of denomina- ions." Their resolutions further recorded their refusal t erve in over-churched communities. Members of the Methodist Church in attendance at the conference adopted n overture to their bishops, district superintendents, and ther administrative officers appealing for a constructive ural policy to offset the bad effects of competition between he churches. The Atlanta quadrennial convention of the ederal Council of Churches added its voice to these others with its recommendation to all the churches "to avoid ompetitive over-lapping on the one hand and consequent ver-looking of less attractive fields on the other, and to rrive at effective comity."

AT the referendum election of April 7, the voters of Chicago defeated the so-called Dever-Schwartz municipal-ownership traction ordinance by the smashing majority of over 100,000 votes out of a total of about 557,000. (See The Survey, April 1, 1925, p. 50.)

The result of the referendum is distinctly perplexing. The ordinance was supported by hundreds of disinterested and progressive civic organizations. It had passed the city council by the decisive vote of 40 to 5. A mayor of unimpeachable integrity and known sympathy with liberalism had anxiously studied it; had earnestly endeavored to improve it by securing the maximum of concessions from the traction companies.

The business elements of the city were supposed to be solidly united for the ordinance; scores of trade unions had indorsed it; the people have been clamoring for better service and lower fares. Yet, the ordinance was scrapped by an extraordinary majority!

Is it to be inferred that Chicago insists on real and complete municipal ownership and operation of transportation, and is willing to wait and suffer for years rather than accept a compromise? By no means; hosts of voters objected to the ordinance on the ground that "the City Hall crowd," the mayor and aldermen, would possess too much power under it, rather than too little, and have too much money to spend. Does Chicago, then, prefer operation by "the traction crowd" and is it prepared to give the companies a new franchise, even though that franchise would run for forty or fifty years? Some interpreters of the results of the election take that view, but the strenuous advocates of municipal ownership and operation challenge it aggressively.

It is the opinion of many good local observers that the Dever traction plan was rejected, not because of its actual or alleged defects, but because tens of thousands of voters, alienated from the mayor by his prohibition and law-enforcement policies, decided to rebuke him. Had the plan carried, Mayor Dever would have been the logical candidate for another term, and no rival candidate would have had a chance in the race. The defeat of the ordinance is argued to mean the end of Dever's political career and the destruction of his political hopes. Two Democratic ex-mayors had solutions of their own and opposed Dever's.

Ex-Mayor William Hale Thompson, a candidate for reelection, also has a traction plan, a radical one which presupposes new state legislation of moment and great complexity and the grant to the city of the power to meet traction deficits by general taxation. Governor Len Small owes much to Thompson, and is friendly to his traction plan. The legislature is virtually controlled by Governor Small and likely to follow his leadership, yet it killed a Thompson traction bill two years ago and may kill another such bill this year. Much will depend on the attitude of union labor and of the liberals of Illinois toward the Thompson plan. For the time being the traction situation is chaotic, and only two years hence the franchises of the surface line companies expire.

THE International Brotherhood of Electrical Workers has entered into a novel agreement with the New York Edison Company. Recognizing that the supply of electrical current for public as well as for industrial and commercial purposes has become "so essential in the protection of life and property and in the maintenance of public order and safety, that no power should be established through which the company's service to the public might be jeopardized," the union has accepted the principle "that there are certain features of New York's electrical service which should be conducted through the agencies of organized labor, and other features relating to a continuous and satisfactory supply of electrical current at all times which, in the interest of organized labor as well as in the general public interest, should remain outside the field of organization so fully occupied by the Brotherhood."

In commenting upon the agreement Arthur Williams, vice-president in charge of commercial relations of the New York Edison Company, says that the line has always been drawn between the essential service which under its franchise the company renders the public and which demands a continued supply of electrical continuity, and that work in which this element of continuity and franchise relationship is not an essential part. Throughout its existence the company's power-house labor has been performed by non-union men who even when other electrical workers strike, remain by their posts. The union has never attempted either to organize these workers or call them out.

The adoption of this policy has been due to the fact that the company on its part has not taken advantage of the union's public spirit. Hours and conditions of labor are said to compare favorably with the best in the country. The eight hour day and the three shift system have been in force for years. The men have a fifty-two week year. What would happen if a new management should attempt to enforce a less liberal policy is matter for speculation.

Letters & Life

In which books, plays and people are discussed

Edited by LEON WHIPPLE

A Doctor Looks at Arrowsmith

ALL medical students will of course read Sinclair Lewis' latest, some physicians too; and these will be interested because of the simulacra of medical personalities so thinly veiled in the story of Martin Arrowsmith, village doctor's drudge, crude student of the dull Middle West, aimless crossroads practitioner, health adventurer, spasmodic laboratory searcher and finally, sans selfrespect and wanting even affection, the sham recluse, husband of a lion-hunting social dodder.

Certainly this story was not written for the entertainment or inspiration of doctors, nor to carry a lesson or promote a cause. Built for the laity, assembled, we are to believe, from family traditions of earlier Lewis practitioners, and by the aid of an intensive association with a present day doctor of philosophy, this story may be judged as a work of art, or by its effect upon those human relationships which the applied sciences have fostered in the home under the persuasion of the hand and word of doctors of medicine.

Real interest is maintained throughout; but the boy or girl who thinks of medicine as a career must have a strong stomach, and a keen loyalty to his own clear vision, to persist through college, hospital and the fickle fortunes of private practice, with such a sordid picture before him, unrelieved by anything sweet and wholly true except the clear soul of Leora, so brave a sweetheart, so wise a wife.

The satire is stinging, deserved perhaps. Yet like so many of the misbegotten daubs offered by painters as interpretations of their own distorted emotions and crude mentalities, what might have been a rare realistic novel has suffered from the same lack of proportion and excursions into extravaganza that make of the daily press a school of literary pathology. Flashes of fine service, glimpses of gallant deeds, shrewd skill, clean courage, and now and then a redeeming recklessness serve to carry one over sodden pages of booze and selfishness. Health officers and other promoters of those buffoonery weeks of hocus-pocus hygiene will rejoice in the picturesque abstract from the life of Pikerbaugh, who shares with Leora the best skill of the author.

We see but too brightly American medicine as it might have been if there had been lacking background, sincerity or any of those elements which have pulled it through and past and beyond the sorry makeshifts of the tobacco-chewing era of corn-tassel colleges.

From an author of such ability we could wish a more typical doctor for his hero. What would Arrowsmith have done if his own dull neglect of his precious trusting Dakota bride had not denied her the career of mother? Where would his poker and his intermittent drunks have led him if he had given a mere man's usual hostages and been bound to labor by the burden of a family? Elders and little children are too common a cause for stability, of urgent necessity for earning, to be so wholly ignored in this cartoon of a classical human career.

We have a cast of pitiful pawns, students, teachers, practitioners of medicine and health! Shall we believe it or suspect that Sinclair Lewis and his arbiter laboratoriorum, de Kruif, have seen less of the Hesselinks, or were perhaps less interested in them than in the wide variety of cheap and costly crooks they so elaborate upon in Arrowsmith's career. Much amusement, many sneers, plenty of comparisons with known nonentities will follow in the wake of such a reading. What more?

One could wish for some high hope, and sweet purpose in life to come of any story of one's countrymen, of one's professional fellows. How can author or publisher justify so much trouble in digging up typical tales of sorry folk all over the land, when poverty of spirit is so commonplace as to be unworthy of this abundant gossip?

HAVEN EMERSON, M. D.

ARROWSMITH, *by Sinclair Lewis. Harcourt, Brace & Co. 448 pp. Price $2.00 postpaid of The Survey.*

Society's Original Sin

IN God's Stepchildren, Mrs. Millen has created high tragedy out of the trite materials of melodrama, and has showed significantly how a problem novel can be made a work of authentic art. Her theme is the tragic clash of caste and race prejudice with the social dilemmas of miscegenation in South Africa, as reflected in the life-tragedies of four generations of the half-caste descendants of an English missionary who married in blind but righteous deliberation a Bushman girl, daughter of the former missionary's housekeeper. From this one irrevocable challenge of Nordic folkways, there flows a sequence of tragedies such as has rarely been drawn in the whole range of modern realism. Modern enough in substance, and local enough to be a sort of dramatic epitome of the colonial life of South Africa, these tragedies are so finely conceived that they are Greek in their simple inevitability and high Elisabethan in their rush and poignancy. As in their increasing lightness of blood-strain, these children of mixed blood claim and struggle for the social privileges of their white blood, and fall victims of social prejudices and divided social loyalties

The amazement of Red Lewis

etween the hatreds and antipathies both of their darker nd fairer relatives and associates, we see at last this great odern tragedy of blood that has been so often conjured p but never before so revealingly and sympathetically ramatized. God's Stepchildren is the classic of its theme n our English literature.

Nor is it merely a triumph of style, although stylistically asterful, beautiful and chaste. It is deeply conceived and umanly moving. And it is none the less moving because, gainst the best answer of science, one has to concede the uthor her chief artistic formula of blood-inheritance and tavistic traits. It is really a vicious social heredity that exorably pursues Deborah, Kleinhaans, Elmira and Barry, aughter, grandson, great-grand-daughter, and great-great-randson of the Rev. Andrew Flood, whom one reviewer, ot unaptly, has called the Don Quixote of Christian mis-ionarism. Society's own inconsistencies it is that hound hem out of their life-adjustments with the relentlessness f Greek Furies. And they are not placated until Barry, t the very point when the blood strain is just on the verge f bleaching out in the tolerant unconcern of his English vife Nora, decides in social defeat but moral victory to eturn "to his people," matching his heroic disillusions with he sentimental illusions of his distant ancestor.

All the lives between are blighted lives, Deborah, seduced y a Boer planter who would have married her but for er mixed blood. Kleinhaans, the son, driven out of a rospector's chance of fortune into serfdom on Mr. Lind-ell's farm, exiled to ease Lindsell's family embarrassments when Lindsell's old age and loneliness require his taking the hybrid Elmira to wife. Elmira twice wounded to the quick, at boarding school and now again in the ostracism of Mr. Lindsell's uncourageous gesture. Barry, by the worst irony of all, raised by his step-sister who left the household in protest to her father's second marriage, who in the bitterness of a spinster's self-righteousness undoes her own work of "trying to make Barry white" by poisoning with suspicion and doubt the first year of his marriage.

That all this tragedy is man-made, contrary to Mrs. Millen's pet assumption, is however not detrimental to the artistry and effect of the book. Indeed in some of her deepest insights she seems merely to make blood the symbol of fate, and to use nature as a sort of sacrificial scapegoat for the sins of society. I know of no other English novel on this difficult theme with human values so fairly and sympathetically drawn. It effects truly a catharsis of pity and terror, and passes our social obsessions through a sort of purgatorial discipline. It is not a novel of the type to breed and fix prejudice, but one that poignantly dramatizes it. As life itself in the throes of elemental forces, it touches us all, and discovers the most fundamental human aspects of the problems of race contacts. The American novelist who will go with the same degree of courage, art and insight into the dilemmas of race in this country will open a true vein of American tragedy, and purge us, not of prejudice perhaps, but at least of our thoughtless and traditional misunderstandings. For society, once it precipitates them cannot escape its own tragedies. But there is something of salvation in art.

ALAIN LOCKE

GOD'S STEPCHILDREN, *by Sarah Gertrude Millin. Boni & Liveright. 319 pp. Price $2.00 postpaid of The Survey.*

Cancer of Empire

HOUSING. A subject for town-planners, for health officers, for case workers. A pigeon-hole for statistics. A peg for Utopian fancies. Something one probably ought to read.

But here is a small book bound in paper; ivory and brown and black in a cover by Brangwyn; photographs of unforgettable charm by one James McKissack; five short chapters of text. And out of these elements William Bolitho and his publisher, setting a fresh rhythm for statements of social fact, have made so firm and brilliant a book about the slums of Glasgow that it brushes aside sociological classification and steps with assurance into its place on the shelf where books are friends instead of merely bundles of information.

William Bolitho has published one book, Leviathan, which made a brief stir some time since among the more consistent readers of English letters. Once a week, in the New York World, he writes from the Continent a column of comment on things which seize his fancy—the rise and fall of a family of Fascist dukes; the subtler meanings of jazz in Nice; the divinity which attaches to the *salon automobile* in Paris. The subjects are inconsequential, but nearly always the ironical insight and the form of the essay give it the luster and the flashing highlights of polished brass. Otherwise this young South African is unknown this side of the Atlantic. But he is of the stuff

which makes one covet him as a witness and interpreter of our American scene.

Bolitho went to the Red Clyde, to Glasgow. He tells what he found there. In a word, he found that out of a population of 1,081,983, six hundred thousand, two-thirds of them all, live in "houses inferior to the minimum standard of the Board of Health;" that 40,591 families live in a single room each; that 112,424 families live in homes each holding one room and a kitchen. He found that this miserable huddling is no post-war accident, but the cumulative fruit of many years of overcrowding.

Published in Great Britain by Putnam.

Generations of the dirty and poor [he writes] have crowded into rooms eternally dark even in summer, where one can never read print at a ground-floor window by daylight, where even if they wished or thought of it, it was impossible in the dim gaslight that is always kept burning to seek out and remove the dirt. Generations of children have played in these profound cobbled passages, shut in under tall and air-proof walls, spilling the refuse of innumerable ash-bins and treading it into the black, moist ground to make modern Glasgow. The very soil is impure, uncleanable, in this city that lies in the mists of river and chimneys, in the northern, sunless cold. This city I have seen, in winter, its black high barracks, that elbow each other desperately for room, where millions have lived "crammed like salt fish in a barrel" for a century; monstrous, melancholy, unclean.

What he found fills three of the chapters; without sentimentality, but with a fine vigor of observation, he tells the story of a day and a night round of the Glasgow slums. Here Ornament, in the person of two china dogs and "curious shapes of solid brass, which I take up and find to be rough profiles of women's boots," are "left in the filter, the sieve of the Backlands which inexorably sifts out everything that can be done without: sun, air, space, all superfluities"; there a door is opened "by a shirted man, suddenly and softly, as if impelled forward by the overpowering slum smell behind him."

What can be done about it? To that Bolitho gives the final chapters, and here too he grasps his matter firmly, scorning the easy solution and the trivial satisfaction of fixing "blame." The small adventures in city-aided housing which Glasgow has already found possible have provided homes for 4,000 families of a better-paid class than artisans and laborers, and 2,000 of the very poorest, these only by virtue of subsidy which cuts the rent far below its economic level. But no less than 57,000 houses would be needed to rid the city of the front and rear tenements of the Red Clyde. And the "terrible main root of Glasgow's problem therefore leads to the following dilemma: If capital is found for rehousing Glasgow, and houses are built to satisfy the minimum standard of health, the economic rental will always be such that no considerable portion of the 600,000 can pay it."

Admitted that the industries of Glasgow, most of all the shipbuilders, cannot pay such wages as would make it possible for their workers to pay these economic rents and that the state can never find the funds to rehouse these workers adequately even if it were justified in so subsidizing the industries, and "there is no logically satisfying solution in sight." Yet the problem cannot wait for solution. The statistics "propound dilemmas agreeably, unanswerably. Either Revolution, or Subsidy." And the human forces at issue—the cowed and hopeless mass, now being driven to unwelcome effort to better itself, the wiry radicals of the skilled artisan group—these hold no promise of stability. The Red Clyde is Cancer of Empire. G. S.

CANCER OF EMPIRE, *by William Bolitho. Putnam's. 60 pp. Price* $1.00 *postpaid from The Survey.*

Spring Tonics

THERE be spring fevers of the soul. We need tonics for the vernal equinoxious feeling inside as well as out. For the body, folklore found virtue in dandelion greens and sulphur and molasses and sassafras tea; for the soul, the good Lord provided fishing in the sun; but—if you can't go fishing, read these five happy books. They are not great books, I misdoubt they are even good books. They are just gorgeous books. Books to give you the chuckles and lumps in your throat . . . books to keep you up late with frozen blood and creeping flesh . . . books you must quote without mercy to your friends. And those are the only books we really love. The rest are duty books. These are fun books—written for fun and read for fun. They don't mean anything, and they haven't, thank God, any message. Indeed, most of them touch on the immoral, and are likely to have a hint of the raw in them. Spring tonics are notoriously most efficacious when a little bitter. I offer no balanced ration in reading but an unbalanced one; no *bon voyage* basket of books for loafers down to Bermuda (if they took these books they'd see nothing of Bermuda!); no parcel of books for a sick friend; no ten-inch bookshelf for a week-end in the country—no rule of thumb at all or any sense of social responsibility. All in the world I offer is five books that I liked. They may unlatch that window that opens on the perilous seas and fairylands forlorn.

Hudson Maxim's Reminiscences won't do that. It's a sulphur and molasses book, as seems fitting for one who has spent his life making explosives. Yes, his brother Hiram invented the machine-gun, and Hiram's Hiram, the Maxim silencer. Hudson just invented Maximite, a high explosive that was used for a great part of the World War. Clearly a gang of gunmen—and with that we'll leave the facts in the case and try to explain why this is the best biography we've read this year—itself *annus mirabilis* for biographies. Great biography ought to do two things: present a person and limn a background. It need not be historically correct or have the dates right, or present a critical estimate of a person, or show how his achievement twisted society thus or

hus. Clifton Johnson didn't attempt any of these worthy hings: he just went over to Lake Hopatcong and talked vith Hudson (and his wife and secretaries) and so caught his human detonator in the act of baking beans for the family, of playing Neptune at the Atlantic City festival, f driving a car with one hand at sixty-five miles an hour, f hating perfumes so that he sends a preliminary printed varning card to all guests who approach him, and of going o bed at eight o'clock and leaving the guests to entertain themselves and each other. (O would I had that courage!) Each chapter begins with a picture like this—and then Hudson comes on and tells of his boyhood in Maine, his stunts as school-teacher and pedler of patent ink, his adventures with high explosives, his quarrels with Hiram, how his hand was blown off and he travelled all day from Lakewood, N. J., to upper New York city to get the right doctor, and then asked if his heart could stand an anesthetic! This, you perceive is requisite one for a biography—a person.

The background is in the first half of the book—a memory of life in bleak and tempestuous Maine around about the Civil War years. The wonderful mother of these explosive Maxims, the toiling half-inventor father, the hunger, the snow, the dogs, the fights, the schools, the games, the love and courage and struggle are etched in chapters that certainly make a contribution to the picture of an America that was. Here is the place the covered wagons started from. It is Snow Bound without the alleviations of culture, but with the hunger for education that sent New England into power. It helps explain why the tradition of Nordic strength is still alive. These chapters would make a good text-book for Americanization classes. And it is written "in American"—the style is what Mark Twain would have loved, as indeed, the man and the scene are like Mark Twain, and life on the Mississippi. The vanishing past is alive again here, and this rough flame of a man alive with it, and the two make a man-sized book.

The trouble is I can't prove anybody else will like these books. Talking about them seems waste breath—and you can't quote enough unless you quote the whole book. But A. A. Milne's When We Were Very Young has sold some fifty thousand copies, rather a record for a book of child's verses, and everybody's quoting the thing. It has as they say in baseball, everything. Mr. Milne knows the way children think; he knows the way they talk; he knows how grown-ups think children think (so he tickles our vanity); and he knows how a clever author can make children think and talk to make grown-ups chuckle at the concealed satire and philosophy. I only hope you will not join the footless debate now epidemic among the high-brow as to whether children "really like it" or does it "appeal only to grown-ups." Who cares? The sun shines for all —grown-ups and children and grown-downs.

The rhythm of spoons beaten on tables is in the line:

James James
Morrison Morrison
Weatherby George Dupree
Took great
Care of his Mother
Though he was only three.
James James
Said to his Mother,
"Mother," he said, said he;

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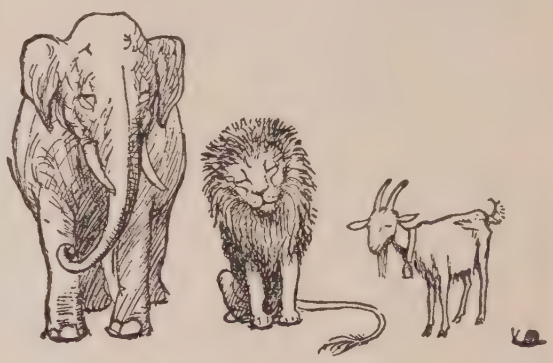
The suppressed ego of both child and man in face of th cosmos is here:

I think, if I were King of Greece
I'd push things off the mantelpiece.

The child's lack of a scale of values and his encompassing pity are in the tale of Ernest the elephant, Leonard the lion, George the goat, and "James a very small snail."



Ernest started trumpeting, and cracked his manger,
Leonard started roaring and shivered his stall,
James gave the huffle of a snail in danger
And nobody heard him at all.

The irony of the King who slid down the banisters, and though "not a fussy man" declaimed: "I do like a little bit of butter with my bread"; and the sophisticate comments of Alice at guard mount in Buckingham Palace where "A face looked out, but it wasn't the Kings, He's much too busy a-signing things, says Alice" are for the aged, and so is the tale of the o'er tubby Teddy Bear who "envied those who walked about, Reducing their unwanted stout." But here surely is the heart of childhood:

Has anybody seen my mouse?
I opened his box for half a minute,
Just to make sure he was really in it,
And while I was looking he jumped outside!
I tried to catch him, I tried, I tried. . . .
I think he's somewhere about the house.
Has *anyone* seen my mouse?

"I tried, I tried. . . ." The pathos of that is child's and man's—just human, and timeless.

The Celebrities Cross Word Puzzle Book has two claims to fame. First, it is of noble girth with blacks and whites as big as those on chess-boards near, so the astigmatic need not curse their blearing eyes. Second, my copy says: "This is Number 517,637 of the Original crossword puzzle books." Puzzles have become an industry like Fords with serial numbers gone millionward. The kick in this collection is that they are by celebrities, more or less. More or less by, and more or less celebrities. It runs from Berlin, Alice Brady and Broun to Van Loon, Von Phul and Zimbalist. There's the usual prefatory paraphernalia, the inevitable dictionary ad. behind, and some funny black and white cartoons in between. We recommend this book as a good one to taper off on.

A Voice From The Dark is the first detective story ever reviewed in The Survey. ("The last," says The Editor.) It comes under either penology or recreation. To be sure it came in "our field" we took the most respectable murder-teller we know, Eden Phillpotts who, you recall, does very serious novels about Devon and places, and is a sort of

nor Hardy, less courageous but more kindly disposed ward the human race. It may surprise you to learn that her for fun (or more likely for money) he takes a flier mystery tales, now and then. His Red Redmaynes ers the most startling denouement ever conceived in this in, and his The Grey Room though a bit artificial is rich spinal tremors. The present Voice is neater craftsmanip and intenser writing than either. A Master and his an scare a pitiful little heir to death by disclosing a edieval effigy in a dark room. The Master inherits the le. The detective knows this after fifty pages. The st is the pursuit, and a really deft study of remorse, a eath from conscience, and a climax full of science and everness. Phillpotts is not so good at sharp action and ear-cut characters as is J. S. Fletcher. (You can buy m from Macmillan advt.) His people are not so flesh and oody. But they have more insides, and are less automata or the plot and more psychic units per se. He psychologizes etter, as they say. Lord Brooke, with his passion for rved ivories has shadings and complexities that most ystery-mongers haven't time or gift to put in their thrillrs. Art will tell. A great novelist writes better shockers an a shocker-writer. Some people lament that Eden Phillpotts debases his art thus. Not we: any man who rites better detective stories is a benefactor of the race. But, all said and done, why apologize? All great men read hem. Indeed, we would be suspicious of our own destiny we didn't like detective stories. The liking is a guarantee f greatness.

Some conscientious soul suggested I review The Conant Nymph as a study in modern education because anger's children had no training whatever but were surounded with great music for which they had a kind of rusading love. That would be like using butterfly wings or dish-cloths. If there's anything this book isn't, it's not tract. It's a study in the human spirit, and I am cynical nough to believe that critics, especially the flip American ritics, admire it so hugely simply because they have forotten how glowing and moving the human spirit is. When ave we had a chance at a great soul like Teresa's in a ook "Made in U. S. A."? Here is a full length study f what is chalked in dimly in Arrowsmith's Leora.

In fact this is the kind of book the English do supremely ell, and we can't do at all. They take youth first of all, nd then they take genius, either in a low social caste or f an outlandish eccentricity, and then they mix the genius ement into their stiff formal conservative society, and they enerally let some one of the genius group evince a kind f deathless pathos. The resultant thing of tears and fire May Sinclair's Divine Fire, H. G. Wells' Tono-Bungay, r Locke's Beloved Vagabond. Perhaps Margaret Kenedy's nymph is a deeper study in the everlasting starry oul of spirit love cased in desirous flesh than any of the ove. Perhaps it is done with a tenseness and suppression at we have learned in the last decade. Vide the triumph f dealing with license and passion and unbound tongues, nd never once giving a hint of the salacious or vulgar. But lacks in other virtues that this type may hold, such as e real social meaning behind Tono-Bungay.

Simply, this is a lyric, not a novel. It is just about young rls and love and music. Underneath all is the spirit. The ch Jew impressario wins his beloved, but grieves still at he cannot share her spirit. Lewis Dodd and Teresa ave spirit resonances that echo from the spheres. Sebastian

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speaks with the wisdom of the ages in the mouth of te years because he lets his spirit speak. Yes, this singing boo perhaps marks an advance over the pathos achieved by th British novelist who has used youth and age, dullness an genius, lord caste and commoner caste, to work into con trasts, color, sacrifice and pity. Here, we perceive on further class distinction—some people have souls, and son have bodies, and some have bodies and souls. Their passag amongst each other is the heart of beauty and of tears.

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"MY vision of the Russian people as exceptionally fantastically gifted and uncommon, does not fail me," says Gorky on the last page of this book. "Even the fools in Russia are peculiarly foolish in a way of their own, just as the sluggards have a genius of their own." Two hundred pages earlier he had made one of his characters remark that "Russian literature is very much like that creeping fungus. It draws out of life its dampness, its filth, its abomination, and unavoidably infects with its gangrene every healthy body that comes into contact with it." And a few pages farther forward he had insisted that his townspeople "live in a stupid way and, purely as a result of this, they live dirtily, dully, bitterly, and criminally. They are gifted people—but only for anecdotes."

Well, here are anecdotes of them—and of Maxim Gorky, one of them. Here is a panorama of such degenerates, tramps, intellectuals, inarticulate old men and illiterate peasants as only Gorky can draw. They are stupid and cruel, exceptionally and fantastically so, yet Gorky mixes love with his acid. He has faith in stupid human beings. It seems a far cry from Maxim Gorky to Ralph Waldo Emerson, yet, with far more honesty in facing the miriness of mud, Gorky too is preaching that in the mud and scum of things there alway, alway something sings. Bitterly, sensitively aware of the protoplasmic torment of the Russian people, he still believes—and says—that "when it begins to work in the full consciousness of that cultural, indeed, that religious importance of labor, which joins all the world into one, then it will begin a fairylike, heroic life and in many a way will enlighten a world exhausted by strife and maddened by crime." LEWIS GANNETT

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(*Continued on page* 194)

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The evils can be corrected only by removing the causes, not by tinkering with the consequences. The first necessity is to recognize that the primary causes are to be found not in the field of law, or theology, or esthetics, or superstition, not even of economics, but in the field of biology.

1. **Young people are not properly educated** for marriage. Many of them scarcely know what marriage means.

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GIANT POWER—REGIONAL BUILDER

(*Continued from page* 164)

of Pennsylvania State College. Levi H. Brubaker owns a farm of 133 acres in Lancaster County. With the coming of factories to the neighboring town, he confronted the usual competition for field and household help. Without electrical equipment he could give neither steady employment nor the wages demanded by skilled labor. To meet the situation he electrified his farm and organized it on a factory basis. He divided it into two sections, each of which he subdivided into three fields. Each section he runs on a three year rotation—1, potatoes, wheat and alfalfa; 2, tobacco, wheat and corn. By using electricity to spray and grade his potatoes, thrash his wheat, cut his ensilage, and generally to substitute machine for hand work, he is able to keep three men steadily employed the year round, to pay them high wages and to do without extra seasonal labor. If electricity were cheaper he might adopt the manless electric plow used in some parts of Germany and in experimental use at Iowa State College. Indeed he might consider the electric drying of his hay and alfalfa, a practice developed in Bavaria and other European countries, and so largely increase the yield of his fodder ground. As it is, electricity has not only revolutionized his agricultural practice but, unlike the horse and mules of fading memory, enters the house, cooks the meals, dusts the floors and furniture, washes and irons the clothes, pumps water in abundance and in a score of other ways makes life worth living for his wife.

So much for one farm. When regional planning and giant power have done their work, what kind of world will they have fashioned? Any attempt at prophecy that went beyond the limits of actual achievement in Ontario, California and Europe would inevitably fall into as stilted and artificial a pattern as More's Utopia. No amount of expert planning or mechanical equipment can do more than create an environment in which the human spirit shall have maximum freedom to develop its potentialities. We know that both the lop-sided industrial life of our slum-breeding cities and the hard, stark, culturally atrophied life of the isolated farm and small towns make rounded education and spiritual development impossible. Effective regional building, by establishing a vital, organic, functional integration of the farm, the small town and the financial metropolis, should correct the present abnormalities and diffuse the advantages of each. By carrying industry closer to the farms, and drawing the farms closer to the industrial centers, by opening the windows of the cities to the fresh air of the countryside and infusing into the farms and small towns the nervous energy with which our machine-geared cities are oversupplied, it should restore to our mechanized civilization the diversified occupational and cultural opportunities of the earlier household and neighborhood economy. It should stabilize and enrich community life, and so prepare the ground for new folkways and indigenous customs, for the flowering forth of new community visions of the good life which are of the essence of religion.

All these things are within our reach. But who can say whether as a people we have the capacity to grasp them?

THE ROAD TO GOOD HOUSES

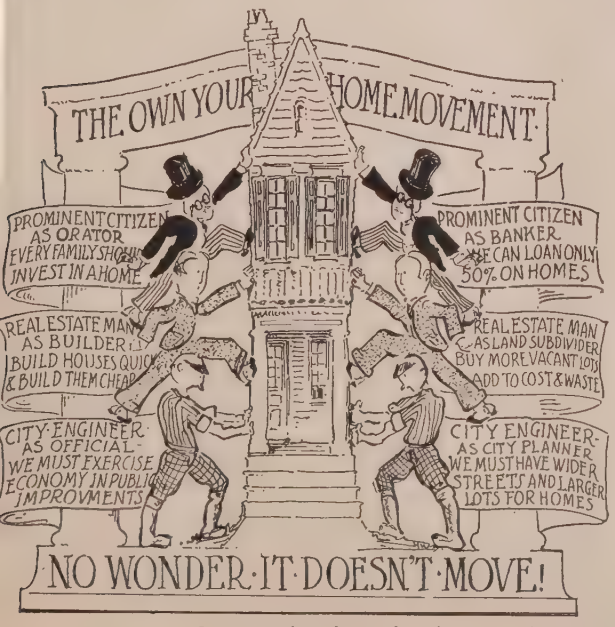
(*Continued from page* 168)

nomies characteristic of community-planned housing, build- houses for people with a family income of $2,400 to $3,000 r year (see The Survey, November 15, 1924).

The first economy consists in obtaining a sufficiently large rcel of ground to be treated as a unit, and not to be opened in advance of use. Unfortunately at Sunnyside this econ- y was only partial; we were not able to avoid the wasteful reet system already laid down by the city. The next economy ew out of grouping the houses and apartments. By this ans many types of dwellings and modes of construction have en woven into the experiment; the individually owned house, e cooperative apartment, and the rented apartment; and ese differences in function serve as the basis for differences design. Planned housing of this kind is able to achieve the rt of honest individuality that comes from performing ade- ately one's own part in a larger whole; each house is, as it re, a good private citizen, with its individual entrance, its dividual porch, its individual drying green, its complete nse of privacy, and at the same time it performs its civic ligations—it supports a park, a playground, a tennis court, wings, slides, wading pools. Above all, no house attempts shout down its neighbors by reason of special size or style.

In such experiments we have already gone a considerable stance towards meeting the hidden costs of housing; we have en able to put more into gardens and playgrounds and into substantial type of construction because we have wasted less paving, on fences, on unusable ground; because we have en able to avoid the high costs of special fireproof con- ruction which is imperative in more crowded quarters, and ecause we have eliminated the speculative profits of the uilder who aims to give as little as possible for as much as ossible. In the space of twelve months, 128 houses have en completed and occupied at Sunnyside; a second unit is early ready; a third is under way.

That community planning is not contrary to all the instincts nd desires of American people is shown, I think, by the degree f success that has attended these scattered experiments. f we barter our will o' the wisp Ideal Home for the real reedom to design and build complete communities, we may chieve in common what the majority of us will never succeed achieving separately.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"XXX County House
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Feb. 25th, 1925.

Dear Mother:—

I have a man under my care, who is now in..... Hospital..... He has an incurable cancer on his face. I have no room for him in the Home, and no one that can take care of him that will, or can, give him the proper care. The inmates of the Home are all old and feeble, and if I had room for this poor man they would not help in any way to make him comfortable. The Hospital tells me I must take him away as they have no room for incurable patients. I am writing to you thinking I might make some arrangement for you to take him, and care for him as long as he should live, which I do not think will be very long. I want to do the best I can for this poor man, and I am told that there is no place where he will be better cared for. This man has no friends that can help in any way; what is paid for him will be paid by the County. I trust that you can help me, and take this man, and we will pay you whatever you ask for your trouble.

Supt. of the Poor of XXX County,
New York."

Accepted; no pay ever received.

HAVE YOU HEARD

that the poor sick (with cancer beyond hope) need a fireproof Country Home It is an item of news that should not pass unheeded. An Annex to this needed house at Hawthorne, N. Y., on the Westchester hills has been finished, and holds 25 men and women. The important main building should go right up for 100 destitute and homeless cancer cases. The Annex mentioned has proved what the big Home could do by air and comforts, as a tribute of respect to sorrow. $150,000.00 has been received in donations, and we need much more.

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CAN WE HAVE GARDEN CITIES IN AMERICA?

(*Continued from page* 173)

by certain American habits. We are used to cellars and usually demand them. In England a cellar is dispensed with. We are accustomed to central heating. In England and on the Continent this is quite unknown in the small house. Our workers are accustomed to much better plumbing than those abroad. Even among families of a fairly low income it is becoming more and more general to use automobiles and therefore to require some sort of a garage.

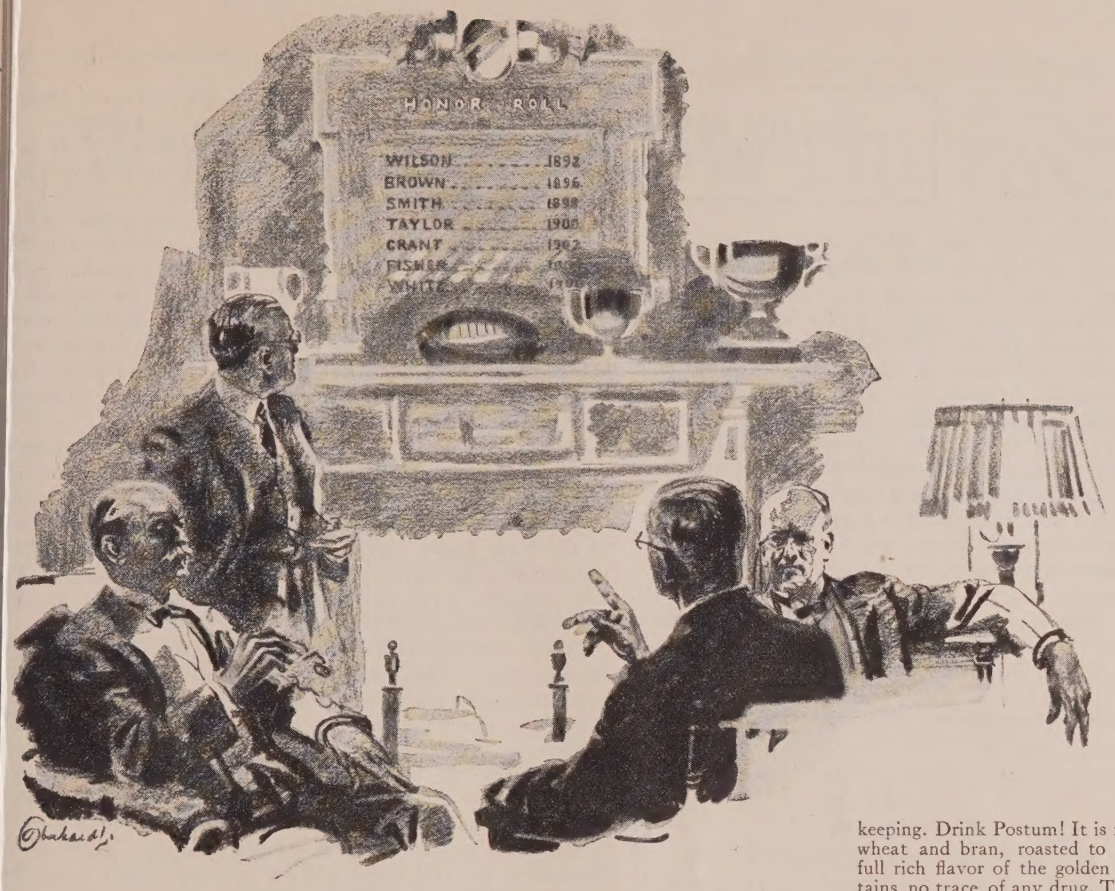
On the social side, it would probably be harder to create a garden city here than in England. Our population lacks the homogeneity which simplifies the building up of a new community; the number and variety of races would create obstacles. In England, the popularity of the cooperative store and the familiarity of the man in the street with cooperative methods has been of great advantage.

It is undoubtedly easier in England to capture some of the advantages of a new model town than it would be in America. But these considerations go rather toward proving the greater need for garden cities here than to indicate any fundamental bar to their creation. Even more than England or the Continental countries, we need the relief which a new and better type of town planning afford. The real solution of the housing problem does not consist in the slight improvements which can be made in house planning—desirable as such improvements are. Fundamental progress will come only when the attack is made upon the entire problem. This can probably be done through the creation of garden cities by very large limited dividend companies.

Whether all the elements embraced in the official definition of a garden city can be applied in the United States is problematical. The most difficult of these would be community ownership of the land, particularly since we are not given to long leaseholds. The fact that we can impose proper restrictions even when land is sold would make such a provision less necessary. The desire of English and Continental town planners to conserve the land increment for the benefit of the community could be substantially carried out if the company retained the ownership of all store property, renting it only for comparatively short terms. The residential land, if sold with proper restrictions, would never increase very greatly in value. The practicability of the farming belt, and its size, would depend very largely upon the location of the new community and upon the availability and value of the land. The protection which this belt of open land is designed to give is just as much needed here as in England.

There can be no doubt that a garden city experiment is desirable and practicable in America. Every large city ought to have a number of these new communities grouped conveniently around it, competing with each other to solve the social problems which underlie the business organization of community life. All this can be done on a business basis, that is to say, through the investment of funds. Their gift is unnecessary. But the investment should be on a limited dividend basis. The business success of English limited dividend companies can be more than duplicated over here. Profiting by their experience, and aided by the greater resources of America, such an enterprise ought to be a great financial success. If the tremendous energy and resources which would be mobilized for such an undertaking were to be harnessed to that abundant store of idealism which is latent in us, splendid results might be looked for.

In the feverish rush of our huge, stone-encrusted cities we must seek some relief for the great masses of the population upon whom the evils of city life fall with the greatest force. Is it not time that we, in America, gave the garden city a trial?



"You remember Brown—"

"BROWN? Well, I should say I do! How's he making out?"

"Well, I hardly know. Seems to be doing all right in a business way. But he's on the ragged edge."

"You mean physically?"

"Yes. Oh, I guess it's nothing critical. He's on the job all the time, as far as I know. But you remember how much energy and go he always had? I don't think there was a better-liked man in the class."

"What's the matter with him?"

"That's just it. Nothing, as far as anybody knows—but he's lost the old punch. Just seems to get along, without any particular joy in life . . ."

* * * * *

Do you remember Brown? In fact, you *know* him, don't you? He's all around you. He walks on every street in America, and lives in every block. The man who has nothing the matter with him, but—

A doctor would probably tell him the same thing. No vital organ seriously impaired. No disease. But—

"Everything's wrong with you!" a frank physician might explode. "You're the accumulated result of years of 'trifling' bad habits. You've taken no regular exercise. You've tickled your fancy in the matter of food. You've clipped short your hours of sleep. Worst of all, perhaps, you've dosed yourself regularly with 'moderate' stimulants—you've taken caffein into your system meal after meal. Do you happen to know that the caffein you have taken in any one meal would be as big a dose as I would administer in a case of heart failure?

"The thing you need to do is to revise your mode of life. I can't do it for you. You'll have to do it for yourself."

We might dismiss Brown's case with that, if he were the rare exception. But the United States Life Tables for 1920 show that the average American begins to lose health and vigor—begins to slip—at the age of 31. In other words, Brown comes very near being the average American!

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Nervousness, sleeplessness, indigestion, headache—these warnings are brushed aside as trivial. Then, when the crash comes—or when the slow process of deterioration asserts itself in some insidious disease—we can only regret!

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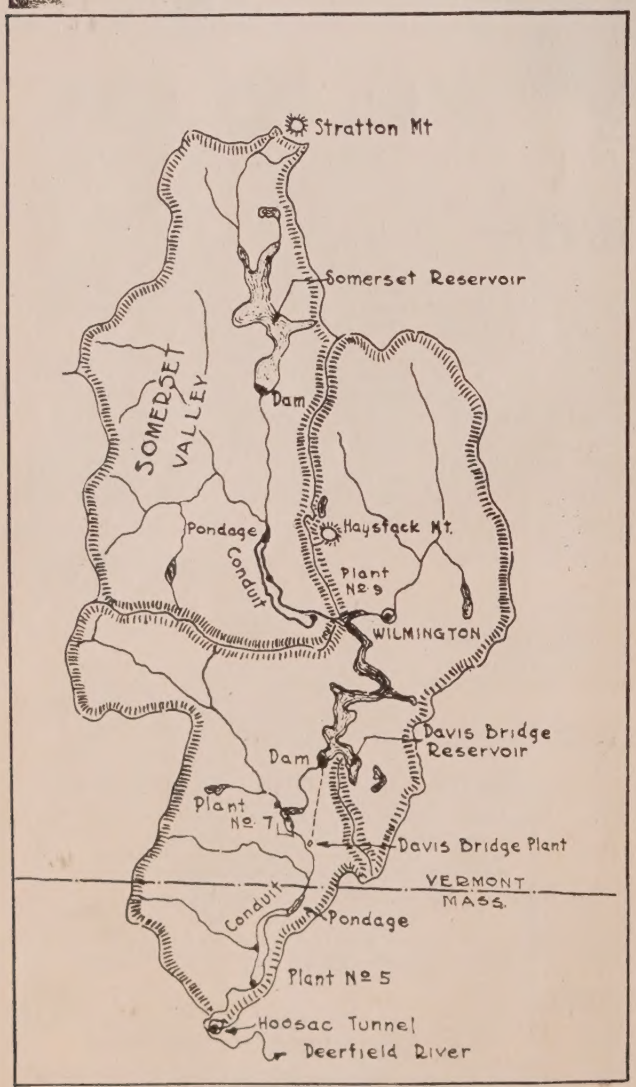
THE NEW EXPLORATION

(*Continued from page* 157)

a power plan is here presented. We are saved the trouble of making this plan ourselves. For it has already been made (and in large part carried out) by the engineers of the New England Power Company.

These engineers are, in all reality, explorers in the new exploration. They realized, when they went about their job, that there was already laid by nature within the basin of the Upper Deerfield some one *most efficient framework* of power development (some combination of reservoirs, power sites and grades for guiding the stream's flow which would yield more power per annum, and more steadily, than any other combination). Their job was to *find* that framework. Whether or not literally they did find it, neither they nor we perhaps shall ever positively know. Perhaps even now they can see some better layout. But they have found *a framework* for securing and controlling the stream's power which certainly looks like that "most efficient framework" we are seeking.

We shall not go into the details of this framework. Its main lines, as with the forest plan, can better be presented graphically than by verbal description. The plan provides for developing the Upper Deerfield's power throughout its whole valley above Hoosac Tunnel. The plan is limited to the "sphere of origin." It is a framework for making available for use (in the form of electric power) the potential mechanical power of the stream's flow. *What use* (when available) this power should be put to is quite another story. That is a problem of another sphere, namely the "sphere of distribution." And this we shall not enter in this article. The problem of distributing power flow is part of the problem of distributing industrial flow generally; and power flow is part of that one great stream of industry which ultimately must be handled as one great unity.



A water power plan for the upper Deerfield Valley

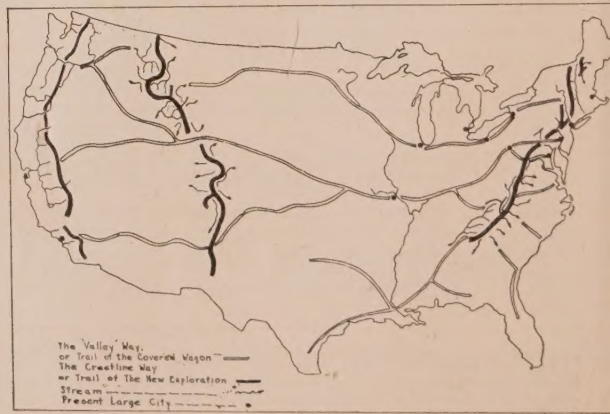
Illustrations, within the sphere of origin, might be presented of other industrial strands: thus the "most efficient framework" for guiding the flow of coal power from the West Virginia mountains; the flow of milk and butter from the grazing lands of the New Jersey crestline valleys; the flow of wool from various grazing regions along the Appalachian ranges. The two examples given (of lumber and water power) are but hints in our industrial charting.

Indeed industry forms but half the story of a region's "settled life." The other half—its social development as a community unit—is a whole subject in itself. The problem there is to chart the framework for a community which shall make of it an environment fit for human living. Thus a forest community in the Deerfield Valley need not be primitive nor crude. On the contrary it is readily open, on its own modest scale, to all that a civilization can provide—not only in material needs but in social life and in culture generally. To chart the framework for real *living,* and not *existence* merely, is another fundamental of the new exploration.

"THE last great earth story has been told." The *old* exploration has done its work. "Settled life," from its early homes on the flood plains of Egypt and Mesopotamia, has pushed nature's wilds aside and spread its web throughout the world: first on the shores of the Mediterranean, next on the coasts of trans-Atlantic lands, and finally in the hearts of the continents. In America the trails of the covered wagons solidifying into ways of steel, have set, in the main, the mold of our industrial civilization.

But the end is not yet. "Settled life" is still not wholly settled. We have cleared one wilderness but made another. We have made an iron web of industry that threatens to strangle us. Beneath this web there lies a latent framework, namely that "most efficient framework" through which life substances must flow before we can be freed from useless toil and strife.

Our job is to find that (*Continued on page* 194)



Old trails and new

WHEN YOU KNOW THE FACTS

It is your duty as a citizen to

THINK AND ACT

"If my soldiers THOUGHT, there would be no wars."
FREDERICK THE GREAT.

"I doubt if war ever really settled anything, it unsettles everything." NAPOLEON I.

DO YOU REALIZE that great wars have developed from the conflicts and exploitation of small nations? That wars are occasioned by economic rivalries of nations for markets, for spheres of influence and for foreign investments? That modern facilities of communication exclude any nation from being safe in imaginary isolation?

DO YOU KNOW that the League of Nations has already averted or stopped six wars? Sweden vs. Finland, Poland vs. Lithuania, Poland vs. Germany, Albania vs. Jugoslavia, Rumania, Jugoslavia and Greece vs. Bulgaria, Italy vs. Greece?

What the League has accomplished in the cause of health, the standardization of serums and antitoxin; the suppression of traffic in opium and noxious drugs? The elimination of white slavery?

CREATION OF THE WORLD COURT.
In February, 1922, this Court was opened at The Hague with a constitution drawn up by the League's committee of jurists. For twenty-five years our Government without success had tried to establish a World Court.

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THE NEW EXPLORATION

(*Continued from page* 192)

framework. And the first places wherein to seek it seem t be those where it makes its start, and where too its strand are fewest and most simple. These places form the "spher of origin"—the regions of the sources where each strand (eac industry) can be segregated and charted as a separate entity The framework for guiding the flow of lumber from Somerse Valley illustrates one such segregated strand; the framewor for guiding the flow of water power from the Upper Deerfiel River illustrates another. It is the mountain crestline, with th side valleys that adjoin it, that is the backbone of the spher of origin.

But down in the city (on the seaboard or the railway down in the "sphere of distribution"—the problem grows com plex. Here the strands are woven on a continental scale. S when we seek our framework here we must deal, at once, wit the flow from continents, not valleys.

And so we of today have our big search as our forefather had theirs. They sought to chart the wilderness of nature; w seek to chart the wilderness of man. In purpose their trai and ours lie in the same direction—from the simple to th complex. But on the map they lie in different ways. Thei trail—that of the covered wagon (of the old exploration) followed the valley way; our trail (of the new exploration) follows the crestline way. Their base of operations was th bottom of the valley (the river line) whence they worked u the side streams to their sources in the hills. Our base o operations is the top of the valley (the mountain crestline) whence we work downstream toward the mouths.

From source to mouth (of river and industry); from crestline to seaport; from sphere of "origin" to that of "distribution"; from the simple to the complex; such is the evolution of the new exploration. Our trail follows the crestline (of the Sierras, of the Rockies, of the Appalachians) and the new exploration may be symbolized in terms of the Appalachian Trail which is already threading its way down the backbone of our eastern states. For the crestline is the new frontier.

LETTERS AND LIFE

(*Continued from page* 186)

early New England towns, bursting out in an epidemic of "styles" in the mid-west pioneer settlements that grew in a decade to thriving cities, drawing on the monuments of Roman pride to express American civic stability and importance, erecting a fearful and wonderful country between the two great oceans. That is the historical story. Then comes the dragon of the tale, the modern machine monster—and the human side becomes negligible balanced against the price per front foot of land.

Man has become a mite before the works of the machines he has created and set to work for him.

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